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ABSTRACT

This evaluation report describes the process by which a large, urban-suburban school system evaluated its vocational education program and the results of the evaluation. The evaluation was built upon a set of broad evaluation questions addressing two components of the vocational-technical program: (1) questions related to employer needs and program planning, and (2) questions related to the vocational-technical centers and the comprehensive high school programs. Although the specific program area of focus was vocational-technical education, the design is applicable to other curricula. The evaluation, which was advised by representatives of the public and local industry, provided for survey data from a variety of sources which impacted on or were impacted by vocational education. The value of the design is that it is manageable, can be implemented by a small staff, uses instruments which, although locally constructed, appear to be valid, and provides for a report of results which is comprehensive yet understandable by a lay board of education and which provides direction for ongoing program refinement and improvement. (Author/PN)

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A DESIGN FOR EVALUATING VOCATIONAL EDUCATION WHICH CAN BE IMPLEMENTED WITHIN SCHOOL SYSTEMS

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A Design For Evaluating Vocational Education Which Can Be Implemented Within School Systems

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This paper reports the process by which a large urban-suburban school system evaluated its vocational-technical education program. The objective of the paper is to outline and describe the steps by which the evaluation was initiated, designed, implemented, and reported and the procedures developed to address and implement the evaluation recommendations. Although the specific program area of focus in the evaluation was vocational-technical education, the design is applicable to other curricula.

The school system is a large, urban-suburban school district of 119 schools (including two vocational-technical centers). In 1979 a series of questions were raised by the superintendent of schools, the board of education, and an ad hoc committee formed to plan for education in the system during the decade of the 1980s. The questions raised addressed two components of the vocational-technical program: questions related to employer needs and program planning (i.e., "Does vocational education make a difference in salary, responsibilities, or speed of advancement?" "Are employers of vocational-technical program graduates satisfied with the skills and attitudes which graduates possess?") and questions related to the vocational-technical centers and the comprehensive high school programs (i.e., "Upon what information do students decide to enroll in vocational-technical programs?" "How do vocational-technical centers address technological change?").

These questions formed the foundation of an evaluation design which provided for gathering data via a series of surveys from former vocation students, employers of vocational students, and vocational and high school staff members (i.e., secondary and vocational school principals, trade and industry teachers, vocational work coordinators, and guidance counselors).

The evaluation design was implemented and data was collected and analyzed by the Office of Research. The entire evaluation was advised by an ad hoc committee representing county businesses and industries, a county advisory committee for vocational education, and the school system. The ad hoc committee met to review and refine the evaluation questions, to react to the evaluation design and surveys, and to receive and respond to the evaluation findings.

The results and conclusions of the evaluation were written to integrate the survey responses from the various data sources under the initial questions which were asked. This format provided both comprehensiveness and clarity by providing to readers an easy access to either the entire evaluation or to specific questions of interest. Each finding was keyed via a set of codes to specific survey items. Finally, the findings were

summarized, observations about trends in the findings were made, and a set of recommendations was offered.

The evaluation results were presented to the board of education and to the general public through a regularly scheduled board of education meeting and a public reaction session. The responsibility for reacting to and implementing the recommendations was assigned to the vocational-technical education program staff. Each of the recommendations has been reviewed and several modifications in the delivery of the vocational-technical education program have resulted.

The evaluation model provides for the self-evaluation of content area programs by school systems. This particular evaluation was advised by representatives of the public and industry and provided for survey data from a variety of sources which impact on or are impacted by vocational education. The value of the design is that it is manageable, can be implemented by a small staff, used instruments which, although locally constructed, appear to be valid, and provides for a report of results which is comprehensive yet understandable by a lay board of education and which provides for direction in ongoing program refinement and improvement.

VOCATIONAL EDUCATION PROGRAM EVALUATION

FINAL REPORT

Submitted by the Coordinator of Research

At its April 2, 1980, meeting the Board of Education received a proposal to evaluate two components of the Vocational Education Program. These components were the Trade and Industry Program and the Cooperative Work Experience Program. The request for the evaluation was initiated by a series of questions posed by the Superintendent of Schools and the information needs of the Ten-Year Planning Team. The evaluation request was to be conducted by the Coordinator of Research and was to be coordinated by the School and Program Evaluation Committee and advised by an ad hoc committee. The ad hoc committee would be representative of the school system and public agencies which provide and use the services of the Vocational Education Program.

At the time of its presentation to the Board, a number of suggestions were made to revise the broad research questions upon which the evaluation would be designed and to add to the composition of the ad hoc committee. These suggestions were incorporated into the evaluation and are reflected in the instruments designed to collect the data and in the committee representation.

THE EVALUATION PROCESS

I. COMPOSITION OF THE AD HOC COMMITTEE

A broad-based committee representative of public institutions and the Anne Arundel County Public Schools was convened to coordinate and review the evaluation. A list of committee members is found in Attachment I. The committee met in three sessions to review and react to the various stages of designing and implementing the evaluation.

Date	Purpose of Meeting
May 5, 1980	Reviewed and clarified the broad research questions
May 25, 1980	Reviewed and clarified the evaluation design and survey/interview instruments
October 7, 1980	Received and reacted to the evaluation results

II. BROAD RESEARCH QUESTIONS

The following questions were used as the primary guidelines for the development of survey/interview instruments and the evaluation design.

A. QUESTIONS RELATED TO EMPLOYER NEEDS AND PROGRAM PLANNING

1. What skills and attitudes are desired by employers?
2. Of the skills and attitudes desired by employers, which skills and attitudes are possessed by Anne Arundel County Public School's vocational graduates?
3. Is differentiation made between incoming employees with high school experience on the basis of vocational education in terms of compensation, responsibilities, or advancement?
4. Under what circumstances do local employers take students for part-time work experiences and actual on-the-job training?
5. What is the current employment status of vocational-program graduates? How does it compare with their training, and is it commensurate with others of no vocational training?

B. QUESTIONS RELATED TO THE VOCATIONAL-TECHNICAL CENTER AND THE COMPREHENSIVE HIGH SCHOOL PROGRAMS

1. By what process and for what reasons do students elect a vocational program? Upon what information are decisions made?
2. Can transportation time and costs for vocational education be improved?

3. How can the vocational-technical centers best address technological change?

4. What is the relationship between the curricula and programs in the vocational-technical centers and the comprehensive high schools?

III. PROCEDURES FOR THE EVALUATION

The broad research questions were the basis for generating a set of more specific questions to be asked of former vocational students enrolled in either a trade program or a cooperative work experience, employers, trade and industry teachers, vocational work coordinators, guidance counselors, senior high school principals, vocational-technical center principals, and those directors and coordinators with responsibilities related to the areas of focus in this evaluation. Methodologies for each survey-interview are detailed below.

A. SURVEY OF FORMER STUDENTS

The Survey of Former Students (Attachment III) was mailed to a random selection of 861 former program students. The sample was comprised of 20 percent of students enrolled in trade programs and 10 percent of students enrolled in a cooperative work experience graduating from 1976 through 1980. Names and addresses were provided by the Vocational Education Department. Also included in the survey was a sample of 10 percent of the vocational students who had withdrawn from the program during the 1979-1980 school year and all senior trade students who did not elect a trade work experience during the 1979-1980 school year.

Because of the nature of survey methodology and the realization that not all students surveyed would return a questionnaire, an additional sample of 42 former trade and work experience students was interviewed on 10 survey questions via telephone. The telephone survey is found in Attachment IV. The 10 questions were selected by the Coordinator of Research and the Director of Vocational Education as those in which a possible bias in the return of mailed surveys might occur. The rationale behind this procedure was to analyze the composition and responses of the two samples, mail and telephone, on the 10 items. If the responses of the two samples did not differ significantly, it would be assumed that the reponses on surveys returned by mail were a fair representation of the responses of former vocational students. Telephone interviews with students were conducted in July by a classroom teacher and a retired principal following a training session conducted by the Coordinator of Research.

Surveys were returned by 210 students (65 surveys were undeliverable by mail). An analysis of the responses of the students surveyed by mail and by telephone showed no difference in the percentage of trade students and cooperative work experience students in either sample. The responses of nine of the 10 items were analyzed (too few students in the telephone survey responded to item 33 to allow a comparison). Responses on seven of the nine items analyzed did not differ. Therefore, in order to increase the number of students represented by the results, the responses of the telephone survey were combined with the results of the mail survey.

The composition of the former vocational students surveyed is as follows:

Males	137	Females	115

Graduate of a public high school in Anne Arundel County?

Yes	232	No	17

Trade and Industry students	129
Cooperative Work Experience students	215

The responses of the former students surveyed are summarized in the results portion of this report.

B. EMPLOYER INTERVIEW

The Employer Interview Form (Attachment V) served as the basis of a telephone survey of 152 employers in the Anne Arundel County area. Employers were randomly selected from three sources: one-third of the employers provided work experience and/or hired trade students, one-third provided work experience and/or hired other cooperative work experience students, and one-third of the employers were randomly selected from the 1980 Index of Maryland Manufacturers provided by the Anne Arundel Country Trade Council. Interviews were conducted by a team of four interviewers (two retired teachers and two classroom teachers) during a two week period in July, following a two day training session conducted by the Coordinator of Research.

Employers were selected to represent a broad range of occupational fields and number of employees. A breakdown of employers represented is reported below.

Occupational Field	Number of Employers	Occupational Field	Number of Employers
Agriculture	14	Hospitality	6
Business	11	Marketing	13
Health	6	Construction	20
Public Service	8	Transportation	25
Communication	17	Manufacturing	32

Size of Business Number of Employees	Number of Employers
1 to 5	31
6 to 10	36
11 to 25	26
26 to 50	16
51 to 100	11
More than 100	32

C. SURVEY OF TRADE AND INDUSTRY TEACHERS

The Trade and Industry Teacher's Survey (Attachment VI) was mailed to each of the 46 trade and industry teachers. Twenty-five surveys were returned to the Office of Research. The results of these surveys are summarized in the results section of this report.

D. SURVEY OF GUIDANCE COUNSELORS

The Guidance Counselor's Survey (Attachment VII) was sent via the basket mail to each of the 95 guidance counselors of students in grades eight through 12. Thirty counselors returned surveys. The responses of these surveys are summarized in the results section of this report.

E. SURVEY OF VOCATIONAL WORK EXPERIENCE COORDINATORS

The Vocational Work Coordinator's Survey (Attachment VIII) was mailed to each of the 58 vocational work coordinators. Thirty-two coordinators returned their surveys. Responses are reported in the results section of this report.

F. SURVEY OF HIGH SCHOOL PRINCIPALS

A Principal/Coordinator/Director's Survey Form (Attachment IX) was sent via the basket mail to each senior high principal. The results of the nine returned are reported in the results section of this report.

G. INTERVIEWS OF OTHER STAFF MEMBERS

The Coordinator of Research conducted interviews of other staff members whose reponsibilities include the programs covered by this evaluation. Interviewed were the vocational-technical center principals, the Director of Middle/Junior High Schools, the Director of Senior High Schools, the Director of Curriculum, the Director of Pupil Services, the Coordinators of Reading, English, Mathematics, Home Economics, Industrial Arts, Cooperative Work Experience, Transportation, and Business Education. The responses of these interviews are included in the results section of this report.

H. ANALYSIS OF THE DATA

The responses of the students, employers, and trade and industry teachers were coded onto machine scanable forms and analyzed by the various statistical analysis programs available through data processing. The responses on the remaining, briefer surveys were hand tabulated and analyzed in a similar fashion. Analyses produced the frequency and percentage of respondents for each of the survey items. These results as well as a summary of all comments and open-ended questions are reported in the next section of this document.

Survey Item Code

RESULTS

The results of the various surveys and interviews will be summarized under the broad research questions which guided their development. Each research question will be followed by a narrative summary of the results, observations, and comments. To the right of the narrative will be a series of codes which relate each summarized finding to a specific survey question. The codes used are:

S	=	Survey of Former Students
E	=	Employer Interview Form
VWC	=	Vocational Work Coordinator's Survey
T&I	=	Trade and Industry Teacher's Survey
G	=	Guidance Counselor's Survey
P	=	High School Principal's Survey
VTP	=	Vocational-Technical Center Principal Interview
D	=	Director Interview
C	=	Coordinator Interview

In addition a numeral following a code refers to a specific item on a survey. As an example, the code S-14 refers to item 14 on the Survey of Former Students.

I. Research Questions related to: <u>EMPLOYER NEEDS AND PROGRAM PLANNING</u>

A. WHAT SKILLS AND ATTITUDES ARE DESIRED BY EMPLOYERS?

NOTE: Much research already exists in this area, findings from the literature are used in current Anne Arundel practices.

Results:

1. <u>Desired attitudes and personal characteristics:</u>

The following attitudes and personal characteristics have been identified by the vocational-technical staff, vocational work coordinators, Craft and Trade Committees, and employers: punctuality, satisfactory personal appearance, satisfactory health and hygiene habits, dependability, ability to work well alone, ability to work well with peers, ability to follow directions, ability to accept criticism, satisfactory general attitude, and satisfactory safety practices.

2. <u>Desired trade skill areas:</u>

Specific skill areas for each trade have been developed cooperatively by the Coordinator of Trade and Industry, vocational-technical center staff members, and Trade and Craft Committees. They are available on the skill cards completed for each student enrolled in a trade (Attachment II-A).

3. <u>Desired work experience skill areas:</u>

Specific skills to be developed in Cooperative Work Experience Programs have been developed cooperatively by the Coordinator of Cooperative Work Experience, the vocational work coordinators, and the various vocational program staff members (e.g., data processing, business education) to reflect the skills desired and to be developed by employers. They are reported in Attachments II-B through II-G.

B. OF THE SKILLS AND ATTITUDES DESIRED BY EMPLOYERS, WHICH SKILLS AND ATTITUDES ARE POSSESSED BY ANNE ARUNDEL COUNTY PUBLIC SCHOOL VOCATIONAL GRADUATES?

NOTE: The answer to this broad question was gathered by asking a series of questions of employers and former vocational program students. Each of these questions focused upon one facet of the relationship between vocational training and success in employment. A summary of the results for each of these questions follows. Unless specified otherwise, all numbers reported are percents.

Results:

1. <u>Satisfaction with graduates:</u>

Of the employers of vocational program graduates who responded to this survey, 92 percent are satisfied or very satisfied with the on-the-job performance of vocational program graduates. E-4

Survey Item Code

(The comments of those employers who are not satisfied are included under Common Deficiencies, summarized below.)

2. Quality of graduates' training:

Employers rated the quality of the training and preparation of vocational graduates as good to excellent in 88 percent of the cases. E-5

3. Accuracy of graduates' certification:

Although only 48 of the 152 employers report seeing the skill cards that trade and industry graduates receive, 94 percent of those employers report that the skills listed on the cards by trade and industry teachers are usually to always correct. E-6

4. Strengths of graduates:

The common strengths of vocational program graduates (particularly of trade programs) most frequently listed are: (Characteristics are listed only if they have been mentioned by five or more employers. The numbers in parentheses refer to the number of employers responding with that characteristic.) E-7

Preparation for work
- Strength in basic knowledge and skills (17)
- Well prepared for the job (9)
- Strong technical background (6)

Work Habits and Characteristics
- Quick to learn (8)
- Dependable and reliable (7)
- Punctual in attendance (8)
- Ability to follow directions (10)
- Willingness to work (22)
- Good work attitudes (9)

5. Deficiencies of graduates:

The common deficiencies of vocational program graduates most frequently listed are: (Characteristics are listed only if they have been mentioned by five or more employers. The numbers in parentheses refer to the number of employers responding with that characteristic.) E-8

- Poor academic preparation in spelling and oral English (5)
- Lacking practical experiences (5)
- Lacking a desire to work (5)
- Immaturity (7)
- Unsatisfactory personal dress and grooming (5)

6. On-the-job training required by employers:

In response to a question regarding the amount of training time vocational program graduates required to be introduced to a business' system of operations, 80 percent of the employers responded that vocational program graduates required less or much less training than non-vocational graduates and 20 percent indicated that both groups required the same amount of training. E-10 E-11

7. Factors in getting-a-job, student views:

Finally, students were asked to rank the factors they considered most important in being hired for their current job. They ranked them in the following order of importance: S-6 to 11

- Ability to learn the demands of the job
- Cooperative Work Experience
- Total high school record
- Letters of recommendation
- Skill Certification Card
- Others (ability to work with people, past work experience, family business)

Survey Item Code

C. IS DIFFERENTIATION MADE BETWEEN INCOMING EMPLOYEES AT THE HIGH SCHOOL LEVEL OF EXPERIENCE ON THE BASIS OF VOCATIONAL EDUCATION IN TERMS OF COMPENSATION, RESPONSIBILITIES, OR ADVANCEMENT?

NOTE: These questions dealt with differences in hiring practices, salary, and rate of advancement of employees with skills learned in a vocational program compared to non-vocational high school graduates with similar job responsibilities.

Results:

1. Preference for vocational program graduate: Employers' and students' perceptions:

Sixty-nine percent of the employees indicated a preference for hiring vocational graduates over non-vocational. An additional 27 percent indicated that they had no preference, as long as an applicant is qualified to perform the required duties. In actual hiring practice 74 percent indicated that they hire applicants who graduate with a trade or a cooperative work experience over applicants without. E-12 E-17

Former vocational students were asked if they worked with fellow employees doing similar jobs who had neither a work experience nor a trade; 74 percent answered "yes". (The actual number of such employees in the work force is not evident from the students' responses and may not contradict the information gathered from employers as it may appear.) S-22

In contrast 57 percent of the graduates felt they could have obtained their jobs without either a trade or work experience. Reasons given include: S-21

The job is unrelated to training,
Students took additional classwork/study beyond high school,
Learning occurred on the job,
Students possess good working skills,
Personality, and
Records from previous jobs were important.

2. Differences in salary and rate of advancement:

While most employees enter the work field at the same salary whether vocational graduates or not, according to 68 percent of the employers, vocational graduates advance at a more rapid rate during the initial period of employment (53 percent of employers) than do non-vocational graduates. Again, in the remainder of cases, employers responded that salary and rate of advancement is an individual matter. Seven employers did not respond to the above items because they hire only vocational graduates. E-13 E-15

The response of employers to a query regarding a differentiation in salary and rate of advancement between graduates across all vocational programs with cooperative work experiences and those without was similar to that regarding trades. Salary at the beginning of employment does not differ (57 percent). However, employees with a cooperative work experience tend to advance faster than those without (54 percent of employers). E-14 E-16

3. Assessment required by employers:

A final set of questions asked employers the types of assessment they use in considering applicants for positions and training programs: E-9

49 percent of the respondents indicate that no written or formal assessment occurs;
29 percent indicate that the interview serves as the assessment;
21 percent require some type of testing which includes office tests (typing, spelling, filing, reading, arithmetic), samples of work (drafting), government tests, or performance tests (welding, carpentry, use of the telephone, or dealing with the public); and
41 percent of the employers require participation in a training program or additional education. These include junior college (banking, Naval Research and Development), two or four year apprenticeships (machinist, TV repair, electrician), home correspondence courses (department store), management training, programs sponsored by automobile manufacturers for certification, and nurses assistant classes.

Survey Item Code

D. UNDER WHAT CIRCUMSTANCES DO LOCAL EMPLOYERS TAKE STUDENTS FOR PART-TIME WORK EXPERIENCES AND ACTUAL ON-THE-JOB TRAINING?

Results:

1. Employers providing cooperative work experience:

Of 152 employers interviewed, 94 or 63 percent currently work with the system to provide cooperative work experiences through the vocational program. E-19

2. Current schedule for work experience:

Of the employers who currently offer cooperative work experience, 99 percent hire students for the required minimum of 15 hours. Students usually attend classes in the home school in the morning and work in the afternoon. According to employers: E-23

45 percent hire students half-time,
21 percent hire students for up to 30 hours per week, and
33 percent hire the students full time.

Staff members agreed with employers that, although the minimal schedule of cooperative work experience is usually one-half day, five days a week, students typically work longer than required. Summer school and evening classes allow students to work longer hours during the day. Other students increase their working hours in evenings or on weekends. VWC-11 P-11 VTP C

3. Student and employer needs:

Ninety-four percent of the employers, 80 percent of the principals, and 91 percent of the cooperative work experience coordinators respond that work experience is scheduled to best meet the needs of both students and the employer. Concern expressed about the scheduling process includes differences in scheduling courses for academic students who were required to take four credits in the home school compared to non-academic students who are required to earn two credits, problems with rescheduling classes for the student who elects a work experience in the middle of the year and cannot reschedule an afternoon class, and loss of class time due to travel time. E-24,25 VWC-12, 13 P-12,13

4. Match between program and work experience

Eighty-six percent of vocational coordinators report that a student's work experience is the same as, or closely related to, his/her vocational program. The 6 percent who responded that the two are not closely matched give the following reasons: VWC-15

a. The Cooperative Occupations Program (COP) deals in attitudes rather than skills for a specific type of position.
b. The student may be hired before he/she transfers into a program, and
c. Specific cases occur where the match between vocational program and work experience was not closely related.

5. Does work experience become permanent employment?

Work experience extends through the summer according to 85 percent of the employers. In addition, 72 percent usually or always, hire the students full or part-time after graduation. Seventy-six percent of the students report that they continued their cooperative work experience over the summer and 67 percent report that the employer hires them permanently when they leave school. E-21 E-22 S-30 S-31

6. Expansion of work experience opportunities:

Seventeen employers who currently do not provide work experience indicated an interest in doing so. The names of these businesses will be forwarded to the Department of Vocational Education. Other employers indicated an interest but could not offer work experience due to the small size of the business or insurance reasons. E-20

Survey Item Code

E. WHAT IS THE CURRENT STATUS OF VOCATIONAL PROGRAM GRADUATES? HOW DOES IT COMPARE WITH THEIR TRAINING, AND IS IT COMMENSURATE WITH OTHERS OF NO VOCATIONAL-TECHNICAL TRAINING?

NOTE: This set of questions was intended to develop a portrait of vocational program graduates. Its purpose was to describe the employment status of vocational program graduates, the ease with which they found jobs, their job satisfaction, the relationship between their training and employment, and whether they perceive that the knowledge and skills they need on the job were developed by the vocational program.

Results:

1. Current employment status:

Former students enrolled in vocational programs in the last five years report the following about their current employment status: S-1

70 percent are employed full-time,
11 percent percent are employed part-time,
9 percent are homemakers,
5 percent are employed part-time and are either homemakers or are enrolled in a post secondary institution,
4 percent are enrolled in post secondary institutions and are not employed,
1 percent are unemployed, and,
1 percent are on an apprenticeship or in the military.

2. Employment status upon leaving school:

At the time they left school: S-2
75 percent of the students were employed,
17 percent found employment within six months,
3 percent found employment within one year, and
4 percent never obtained a job.

3. Ease of finding employment:

Seventy-five percent of the students report no difficulty in finding their first job, 19 percent report a little difficulty, and 6 percent report much difficulty or no employment. S-3

4. Assistance in finding a job:

Students employ assistance from a number of sources in obtaining a first job. S-4

Vocational work coordinators help 31 percent,
25 percent report finding jobs by themselves,
vocational teachers help 9 percent,
high school teachers help 5 percent,
parents help 8 percent, and
peer level friends help 10 percent.

5. Satisfaction with current job:

These former students report the following about their job satisfaction: S-5

74 percent report that they are satisfied or very satisfied, and 11 percent report dissatisfaction. Reasons for dissatisfaction include poor job security, low-pay, boredom, a desire for more hours of work, duties which are not those for which the student was trained, and little opportunity for advancement.

6. Relationship between vocational program and employment:

Fifty-nine percent of the former vocational students report that the relationship between their training and job duties is closely related or the same. Of the 27 percent who report no relationship, students give the following reasons to explain the low, or lack of relationship: S-16 S-17

My interests changed	22 percent
It was the only job obtainable	22 percent
My training was flexible enough to offer me several choices of jobs	13 percent
My current job offers higher pay	12 percent
Other reasons (in the military, had job before training)	25 percent

Survey Item Code

7. Relationship between school skills and employment skills:

Students were asked a series of questions related to the match between vocational training and the skills and theory needed to perform their jobs. Their responses are summarized below: S-18

61 percent report that most or all the skills they need to perform their jobs were provided by their vocational training, and

11 percent report that they learned few or none of the skills they need in vocational training. The primary reasons given were: their job is different from their training, training occured on the job, or there does not exist enough time in the school day to teach everything their job demands.

Similarly, 49 percent of the students report that most or all the theory needed to perform their jobs was provided by their vocational program. The 18 percent who felt that they received little or none of the theory in a vocational program did so for reasons similar to skills reported above. S-19

Of the inquiry whether skills, knowledge, or theory are required on a job but were not provided by a vocational program, 52 percent responded "No." Of those who responded "Yes," the responses were either identical to the above two items or they listed general skills or abilities they lacked (e.g., management, working in public, imagination) or specific skills (e.g., blueprint reading, computers, keypunching). S-20

II. Research questions related to: VOCATIONAL - TECHNICAL CENTER AND THE COMPREHENSIVE HIGH SCHOOL PROGRAMS:

A. BY WHAT PROCESS AND FOR WHAT REASONS DO STUDENTS ELECT A VOCATIONAL PROGRAM? UPON WHAT INFORMATION ARE DECISIONS MADE?

Results:

1. Reasons for choosing a trade or work experience:
(Number is the percentage or respondents choosing each alternative.)

	Students	Guidance Counselors	Trade Teachers	Work Coordinators	
To earn graduation credit	7	11	8	7	S-23 VWC-16
To prepare for a job	53	61	56	57	G-6 T&I-57
To prepare to enter a junior or community college	1	0	0	0	
To prepare to enter a four-year university					
To prepare to enter a trade or business school	3	0	4	7	
For personal interest	22	22	24	10	
Other	14	6	8	17	

NOTE: As is clearly evident in each of the four groups surveyed, most students select a trade or work experience program to prepare for a job and for personal interest. Other reasons given for enrolling include: to get out of school early, to explore various fields, peer influence, an easy way to earn credit, and for more than one of the above reasons.

2. Who influences students' decisions:

Who influences students most in making the decision to enroll in a trade or work experience?

Survey Item Code
S-28
T&I-56
VWC-9
G-5

	Students	Guidance Counselors	Trade Teachers	Vocational Work Coordinators
Parents/guardians	20	23	19	7
Teachers	7	9	15	17
Guidance Counselors	8	20	12	17
Vocational Work Coordinator/ Vocational Counselor	7	5	0	0
Friends/Classmates	14	34	42	43
Other (myself)	36	9	12	14

NOTE: Viewpoints differ on this item. Students report they make their own decisions with their parents. School staff see friends and classmates as most influential. Under "Other" most students responded "Myself," while school staff responded that influence from all of the above sources can be important for students' career program decisions.

3. Information used in decision-making:

Upon what kinds of information do students make the decision to enroll in a trade?

T&I-55
VWC-8
G-4

	Guidance Counselors	Trade Teachers	Vocational Work Coordinators
Interest inventories	0	8	5
Aptitude tests	0	4	5
Their own interests	58	56	60
Career education	24	8	8
Other	18	24	23

NOTE: Most programs decisions appear to be made on the basis of each student's interests. Other information upon which decisions are made are presentations by the vocational counselors, recruitment program, parent's interests, counselor/teacher recommendations, and word of mouth.

4. Do students get their first choice? If not what do they select?

Once students elect a trade or work experience program are they ususally accepted into their first choice?

S-27
VWC-17
G-7

	Students	Guidance Counselors	Vocational Work Coordinators
Yes	92	89	91
No	8	11	9

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Reasons students are not assigned to their first choice of a trade or work experience include: the program was full, the student was either advised not to elect it or was not accepted for it, parents don't agree, lack of prerequisites, and educational limitations. S-28

According to guidance counselors, those students who are not accepted into a trade or cooperative work experience generally enter: G-9 VTP

general education programs,
electives such as industrial arts, physical education, art, or
elect partial schedules.

5. Reasons students are not accepted to a trade or work experience:

Counselors were asked to identify the reasons students are not accepted for a trade or work experience. Primary reasons given were: poor grades, poor attendance, few openings in their field, teacher comments and recommendations, poor disciplinary record, lack of instruction and grades, poor attitudes, and applying for program too late. G-11

6. Holding power of vocational education:

Former vocational students were asked if they would have remained in school if a trade or work experience had not been available to them. Sixty percent answered "Yes." The reasons most often given for the 35 percent who answered "No" were: S-15

the need for money,
the fact that the student likes to work, and
a lack of interest in programs offered in the home high school.

The same question asked of guidance counselors and vocational work coordinators elicited the following reponses: G-8

78 percent of the counselors and 63 percent of the work coordinators responded that these students would remain in school;

22 percent of the counselors and 37 percent of the work coordinators who answered "No" gave the following reasons: VWC-14

Schools have nothing to offer these students, many students would not remain in school for financial reasons and lack of academic success, and programs help to maintain an interest in school until graduation.

One counselor responded that vo-tech and work experience students are not potential dropouts. Dropouts are high ability students.

NOTE: Guidance counselors were asked to characterize the typical student who enrolls in a trade or work experience.

Results:

7. Characteristics of the Vocational Student:

Summarized below are characteristics listed by one or more counselors:

The desire to try, succeed and learn a trade and lack of interest in academic subjects were all listed by five counselors. Other characteristics offered are a wide range of ability and low achievement, regularity in attendance, behavior and attendance problems, task oriented, mechanically inclined, desire to work, hard working, a desire to earn money, and no common characteristics or difference from other students. G-10

NOTE: Guidance counselors' responses to this question elicited a varied, contrasting, and in some cases, conflicting list of adjectives and descriptions. From this information it is not possible to ascertain if a "typical" vocational student exists.

NOTE: Guidance counselors and work experience coordinators were asked to describe the processes by which a student is counseled prior to choosing a trade or work experience program.

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Results:

8. Guidance Counseling for Vocational Programs:

Students are not counseled specifically with respect to a trade or specific work experience. Counseling is a general process which may include some or all of the following: G-12

a. Individual counseling sessions, group discussions, and parent conferences, upon request;
b. Formal presentations by work experience coordinators or vocational counselor;
c. Dissemination of information through literature, presentations and seminars;
d. Information received from teachers, parents, and friends;
e. Media center exhibits;
f. Evaluation at the Vocational Evaluation Unit at North Arundel VTC when students meet the eligibility requirements; and
g. Within the above procedures for presenting information, the counselors help students to explore the available programs to clarify their own interests before making application to a specific program.

Vocational work coordinators report the following about the methods used to recommend students for a cooperative work experience: VWC-10

a. Students are provided information about cooperative work experience programs via slide/tape presentations and vocational work coordinators;
b. Recruitment may take place in classrooms (e.g., English) or during all-school assemblies;
c. After application, all interested students are interviewed by the work experience coordinators;
d. The following are considered during processing students' applications: grades, attitudes, attendance, career aptitudes, interests and initiative;
e. The application must be approved by the work experience coordinator, three teachers, the principal, and parents;
f. The coordinator matches the student with an employer; and
g. Both student and employer must agree to the employment.

9. How Can Guidance Counselors Remain Current?

How can counselors remain current about the total vocational program in order to provide students with the most comprehensive information (in order of preference): G-13, P-14

a. Staff development programs at the vo-tech center at least every two years;
b. Summer in-service;
c. Read all vo-tech flyers, government pamphlets and newsletters;
d. Familiarity with course descriptions;
e. Written explanations made available to counselors which include entrance requirements and program descriptions;
f. One counselor from each school should act as a liaison with the vocational-technical center;
g. Personal contact with all vocational-technical school counselors and staff;
h. Determine job future status for present offerings and phase out programs for which there may be no prospects;
i. More surveys with industry and the Chamber of Commerce to determine what is available now and in the future;
j. Greater use of vocational guidance counselors who better understand the criteria for students to succeed in the world of work;
k. Attendance of counselors at employer-employee banquets; and
l. In-service for every counselor to spend one month in industry.

B. CAN THE TRANSPORTATION TIME AND COSTS FOR VOCATIONAL EDUCATION BE IMPROVED?

NOTE: Three questions were asked to determine the amount of transportation time currently used for students to enroll in the Fundamentals of Trade and Industry course, how transportation costs and time can be reduced, and any implications of these changes upon the vo-tech center and high school.

Results:

1. Transportation Time for Fundamentals of Trade and Industry:

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The time used out of the school day for transportation to a vo-tech center in order for students to participate in the Fundamentals course varies from one and one-half hours to no time lost depending upon distance and the time scheduled. Thirty-eight percent of the principals report that no time is used, 38 percent report 31 to 40 minutes, and 22 percent report 41 to 60 minutes.

2. Suggestions to reduce time and costs:

Suggestions for reducing transportation time and cost to the vo-tech centers and their implications were: P-9 & 10 VTP, C, D

Suggestions to Reduce Transportation Cost/Time	Implications
a. Schedule the Fundamentals course longer and less often, after school, or summer.	a. Will lengthen the school day and reduce the number of students participating.
b. Build more vo-tech centers.	b. Will cost more than the transportation.
c. Time can be reduced by using more buses for more direct routes.	c. Would ease scheduling problems and time lags before and after certain classes.
d. Provide a comprehensive program and vo-tech program at the same center.	d. Will eliminate the need for shuttle service.
e. Fewer runs and longer periods of time at the vo-tech centers.	e. Will reduce the availability of courses and reduce the number of students served.
f. Vo-tech students enroll in an adjacent high school as their home school.	f. Reduce student transportation time and identify problems of attending two schools. This will require dual boundaries for each high school, will cost more, but will save student time.
g. Schedule programs so that a greater number of students leave the home school and arrive back at the same time.	g. No implications given by respondent.
h. Transportation time should match school's schedule to reduce the number of students who wander through the building.	h. No implications given by respondent.
i. Group ninth grade students attending the vo-tech center schools to eliminate runs and maximize the use of buses.	i. Requires a change in school boundaries for students in the program. Will increase the number of vocational programs because more students could schedule the program.

C. HOW CAN THE VOCATIONAL-TECHNICAL CENTER BEST ADDRESS TECHNOLOGICAL CHANGE?

NOTE: Students and employers were asked to respond to the issue of technological differences between training and job demands.

Results:

1. Similarity of equipment/materials:

The equipment/materials used on the job are at the same level of advancement as those used in training was the response of 48 percent of the students; 38 percent responded that the equipment/materials used in school were more advanced than those used on the job. S-24

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2. Ease of transfer:

Eighty-five percent of the students indicated that it was somewhat or very easy to learn to use the materials/equipment required by employment. Of the 78 employers who responded to this question, 81 percent responded that the transfer was made easily from equipment used in school to that used in employment. Areas where some difficulties exist are: using large commercial presses, auto parts (up-to-date knowledge of the field), small machine repair (students need experience with a greater variety of machines), manufacturing (the variety of machines are specific to the industry), machine shop (machines are more powerful than in the vocational-technical centers), and data processing (the accelerating technological advancement of the field). S-25 E-18

D. WHAT IS THE RELATIONSHIP BETWEEN THE CURRICULUM AND PROGRAMS IN THE VOCATIONAL-TECHNICAL CENTERS AND THE COMPREHENSIVE HIGH SCHOOL.

NOTE: The final set of questions asked of students and the various staff surveyed related to the interface between the curricular at vocational technical centers and comprehensive high schools and the current structure of course offerings. Seven issues were addressed: the participation of vocational students in extracurricular activities, the impact of comprehensive high school courses on the working graduate, offering trade students graduation credit in related courses, the length of course offerings in trades and work experience, the program offered to trade students who do not elect a work experience their senior year, the Fundamentals of Trade and Industry course, and pairings of trade courses during a student's initial year of enrollment at a vocational technical center.

Results:

1. Student participation in extracurricular activities:

Membership in clubs, teams, or other school organizations does not appear to be a major interest of vocational students. Sixty percent report no such membership. S-12

Students who do not participate in school extracurricular activities give the following reasons for non-participation: S-13

39 percent are working,
30 percent are not interested,
13 percent report no time in their schedule for it, and
7 percent could not return from a vo-tech center in time for it.

Of those vocational students who do report membership in clubs and organizations, 60 percent are active members or officers. In addition, 84 percent of those joining activities report that they felt a part of the club, team, or organization to an adequate or great degree. S-14

2. Relationship between basic skills and work:

Students were asked to report the degree to which English, mathematics, and science learned in the home school and mathematics and science learned as part of a trade at a vocational-technical center helped them to meet the demands of their jobs. Their responses are summarized below: S-40 to 44

Course: Where Studied:	English Home School	Math Home School	Math Vo-Tech Center	Science Home School	Science Vo-Tech Center
Skills learned and skills needed are about right	55	55	62	47	67
Skills were learned that are not used	29	26	19	32	20
Skills and knowledge are needed that was not learned	16	20	19	21	14

NOTE: In each of the five areas, 79 to 87 percent of the students indicate enough knowledge/skills to perform their job responsibilities. The match between mathematics and science

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required by job responsibilities is higher when the subject is taught at the vocational-technical center. A broader base of mathematics and science is evident from the students' responses when the subjects are taught in the comprehensive high school.

3. Related credit in mathematics and science:

Currently students may earn one (1) credit in math and science at a vocational-technical center toward graduation. No credit is offered in English or social studies. Through surveys and interviews with the vocational-technical staff, high school principals, and curriculum and program coordinators two positions emerge: the first, related credits should be offered at vocational- technical centers, and the second, related credits should not be offered at the vocational- technical centers. The former is the position of the trade and industry staff and vo-tech principals, the latter the position of the curriculum department and specific program coordinators. T&I-48 to 51, P-1 to 4, VTP, C, D

One credit toward graduation in science and/or mathematics may currently be offered after one year of a vocational-technical program. According to the vo-tech staff it is easier to justify mathematics in the various shops than science. Vo-tech staff members support the granting of related credits in mathematics and science because motivation to learn a skill is greatest when the student needs the skill to complete a task. In addition, various staff members propose expanding related credits to include social studies for Nursing and Society and a language-communication credit for Hospitality and Tourism.

A contrasting view is held by the program coordinators and Director of Curriculum. They hold that, although vo-tech center programs can reinforce science, mathematics, and language skills, they cannot replace the programs offered in the high schools. The coverage of mathematics and science at the vo-tech centers does not include all unified science or mathematics objectives. Vo-tech mathematics and science are limited to those skills germane to each specific trade. Because the emphasis will vary by trade, the primary responsibility for instruction and earning credit should remain with the program department in the high schools.

It has been further noted that related credits were proposed primarily to permit the graduation of students with too few credits for graduation or students who cannot schedule the required mathematics or science courses due to cooperative work experience. The position of the Curriculum Department remains that students who do not meet program requirements for graduation should not be granted approval for cooperative work experience. However, this position does not preclude offering language, social studies, mathematics, or science credits at a vo-tech center, if these courses are taught by appropriate staff (e.g., language, social studies, science, or mathematics).

4. Length of course offerings:

NOTE: Students and vocational staff were asked about the length of trade offerings and cooperative work experience opportunities. Generally, trade program enrollment begins in grade 10 and continues through grade 12. Cooperative work experience is usually offered in the senior year, with the exception of the Cooperative Occupations Program where the work experience may begin the second semester of grade 11.

Results:

Students' responses to the length of program offerings were: S-29, S-39

	Trades	Cooperative Work Experience
The time is about right	72	83
More time is needed	19	14
Less time is needed	9	3

Students who indicated that more time is needed generally suggested increasing the amount of time per day at the vo-tech center or increasing the trade program to four years. Those who felt the training could be completed in less time suggested reducing the program to two years.

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The responses of the trade and industry staff to the amount of time needed to teach a trade concurs with the students' responses. For each of the trade offerings, 34 to 100 percent of the trade instructors responded that the current amount of time allotted was realistic. Trade staff members in some cases rated only the trade they taught, others rated all trades, as requested. Principals at the vo-tech centers indicate that trade programs do vary in length and that time adjustments are made internally. Trade offerings can vary from one to more than three years in length. The principals also suggest a better way to examine this issue is to approach each trade skill-by-skill through trade and craft committees or through external consultants with expertise in trades. T&I-1 to 23 VTP C

The responses of cooperative work experience coordinators to the length of work experience offerings is similar to that reported for trades. Of the 32 coordinators who returned the surveys, 14 to 21 rated each of the seven Cooperative Work Experience Programs. Eighty-eight to 94 percent of the work coordinators responded that each work experience was being offered for the right amount of time. VWC-1 to 7

5. Students without work experience:

NOTE: Although most trade students enroll in a work experience their senior year, this is not universally true. The students who do not elect a work experience spend their senior year in a vo-tech center. These students were asked why they did not choose a work experience and what effect another year at the vo-tech center had on their skills and knowledge.

Results:

Of the 33 trade students who responded to these items, 24 percent responded that they did not go out on work experience because jobs were unavailable, 18 percent did not wish to, 15 percent did not have transportation, nine percent wanted to stay in the shop, the parents of six percent would not grant permission, and the program of three percent did not provide for work experience (e.g., cosmetology and practical nursing). S-32 S-33

What happens to the skills/knowledge of trade students who remain in the vo-tech center an additional year? Fifty-six percent of these students report learning new skills and information and 39 percent report practicing the skills and information previously learned.

The same question asked of the trade and industry staff resulted in these responses: T&I -58

39 percent report that students improve skills and knowledge,
27 percent report that students practice skills and information, and
31 percent report that students repeat the skills and information they already know.

Students who elect to stay in the vo-tech center for their senior year can still be placed by a cooperative work experience coordinator. Vo-tech principals suggest that a trade student with great form and potential should be encouraged to stay in the program an additional year and the student with some limitations profits most from the Trade Work Experience Program. VTP

6. Fundamentals of Trade and Industry:

NOTE: Ninth grade students can enroll in the Fundamentals of Trade and Industry course in which they spend six weeks in six trade areas prior to deciding on a specific program of study. Students, trade and industry staff, principals, and guidance counselors were asked about this course.

Results:

Only 16 students out of the total sample report enrolling for fundamentals (the course was first offered September, 1975). All students (100 percent) report that they completed the course, that it helped them decide on the best trade program for them, that they believe the course helped to ensure their acceptance into a trade to an adequate or great degree, and that the course is best taught at the vo-tech center rather than in the junior or senior high school. Reasons given for this latter result are that it provides an opportunity to become acquainted with the vo-tech center and the center has better facilities, staff and equipment for teaching the course. S-34 to 38,

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Are ninth grade students with an interest in learning a trade encouraged to enroll in the Fundamentals course? Does their enrollment help students to choose a trade? Does it ensure their acceptance into a trade? The following table reports the percentage of staff members who responded "To an adequate or great degree" to each of these questions: T&I -52 to 54 G-1 to 3 P-5 to 7

	T & I Teachers	Guidance Counselors	Principals
Fundamentals helps students choose a trade	76	76	88
Fundamentals helps to ensure students' acceptance	92	96	88
Students are encouraged to enroll in fundamentals	72	82	100

Specific comments made relative to the fundamentals course include: concern that the ninth grade student is too young and immature to make a decision that might separate him/her from the programs offered in the comprehensive high school, some concern over the process of guiding students into the fundamentals course, that recruiting for trades and industries needs to occur in the middle/junior high school, and that six weeks in a trade a student is not interested in is too long. D C

The principals of the vo-tech centers add that six weeks in six programs helps students to choose a trade. A promise is made to students in the fundamentals course that if (s)he completes the course (s)he will be accepted into a trade. The fundamentals course serves a recruitment function relative to trades and industries. Finally, the fundamentals course is best offered at the vo-tech center. Including fundamentals within home economics or industrial arts in junior high schools will not work because these instructors lack the necessary trade experience. The fundamentals course would work in the junior/senior high school if trade staff were hired. VTP

7. Pairing of trade course in grade 10:

NOTE: The pairing of trade courses was examined. The first year of a trade in the vocational-technical center in most trades is a two semester program; one semester of the chosen trade and one semester of a "related" trade. Trade and industry teachers were asked to rate the importance of 24 pairings. A rating of 1 means the pairing is very important and a rating of 4 means not important. The average rating of each pairing ranged from 1.27 (the importance of Electricity for Appliance Repair) to 3.58 (the importance of Food Service for Horticulture). The mean rating for each is reported below: T&I -24 to 47

Results:

Pairing	Rating
Electricity for Appliance Repair	1.27
Electricity for Air Conditioning	1.50
Small Engines for Marine Repair	1.67
Welding for Auto Body Repair	1.77
Masonry for Home Improvement	1.92
Electricity for Home Improvement	2.07
Drafting for Graphic Arts	2.08
Air Conditioning for Electricity	2.30
Carpentry for Masonry	2.31
Graphic Arts for Drafting	2.33
Marine Repair for Small Engines	2.38
Masonry for Carpentry	2.46
Home Improvement for Electricity	2.57
Home Improvement for Masonry	2.58
Sheet Metal for Carpentry	2.91
Carpentry for Sheet Metal	2.91
Food Services for Warehousing	3.00
Appliance Repair for Electricity	3.07
Auto Body Repair for Welding	3.23
Horticulture for Food Services	3.25
Warehousing for Food Services	3.26
Machine Shop for Food Services	3.26
Food Services for Horticulture	3.58

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NOTE: The range of the mean ratings suggests that all pairings are not equally related. Vocational-technical center principals agree that both strong and weak pairs of courses exist. The purpose of trade pairing is exploratory, to expose students to less familiar trades. Some trades automatically fill up (e.g., auto body fender) while others would not be elected without course pairings (e.g., welding). The course pairings function to "sell" less familiar trades. If a student does not find an acceptable trade in grade 10, (s)he may elect an additional pairing in grade 11, and not elect work experience in the senior year.

III. OTHER INFORMATION GIVEN

The final question on each survey/interview asked respondents to add anything else they would like the evaluators to know about the Trade or Cooperative Work Experience Programs.

Former students in vocational programs, employers, trade and industry teachers, vocational experience work coordinators, guidance counselors, principals, directors, and coordinators gave further comments, and observations in 189 instances. These additional observations fall into three broad categories of responses: positive comments, negative comments, and suggestions. The relative frequency of these responses were: positive comments, 49 percent; negative comments, 18 percent; and suggestions, 30 percent.

Positive comments were made about program offerings, specific teachers, the value of vocational programs for all students, and the relationship between school and employment. Negative comments were made about counseling, the characteristics of the vocational student, obtaining a job, specific vocational programs, teachers, and the articulation between vocational education and employment. Suggestions were offered relative to course content, available facilities and equipment, counseling needs, and teachers' duties.

These specific comments and observations are considered in the Summary/Observations/and Recommendations which follow and are available to the Vocational Education Department, Superintendent and Board of Education to review.

SUMMARY, OBSERVATIONS, AND RECOMMENDATIONS

I. SUMMARY AND OBSERVATIONS

This evaluation of the Trade and Industry and Cooperative Work Experience components of the Vocational Education Program was intended to provide the requestors of the evaluation with answers to two areas of questions. One set of questions was related to the success of trade and cooperative work experience students as they enter their respective fields of employment. The other set focused on the articulation of the vocational-technical curriculum with that offered in the comprehensive high school. The results section of this report was written to answer those questions by collapsing the findings of the various surveys and interviews within each of the areas.

Realizing that individualization occurs in each student, place of employment, and program, the following observations from the data are offered to serve as a summation of this evaluation.

A. It is obvious that vocational students in the Trade and Industry Program and programs with a Cooperative Work Experience component are employable. Employers are satisfied with the on-the-job performance of these students and rate their training as good to excellent. The fact that 92 percent of the former students surveyed report securing employment at the time they leave school or within six months is in sharp contrast to the high levels of youth unemployment reported nationwide.

B. The possession of a set of skills upon leaving school, developed through the trade program and on-the-job training, places the applicant for employment in an advantageous position. Although a decision to hire a vocational graduate is ultimately an individual matter, county employers report a preference for applicants whose skills have been developed through the vocational program. Although all employees tend to begin employment at the same salary, vocational graduates appear to advance at a more rapid rate.

C. The conditions under which employers will provide part-time work and on-the-job training for students and the schedule of employment appear to have been carefully developed by the Vocational Department and employers. The current schedule of one-half day in the high school and one-half day on the job is the typical schedule and appears to be satisfactory to employers and the majority of the school system staff. The results of this evaluation indicate that, when students are placed into a work experience, a match is made between the skills developed in the specific vocational program and those developed by the work experience. The program provides flexibility for students who wish to work longer than the required 15 hours through evening, weekend, and summer employment. Finally, the survey revealed 17 employers interested in providing work experience who currently do not provide this service to students.

D. The majority of former students report that they are satisfied with their employment, that their training and job duties are closely related, and that most or all the skills they need to perform their jobs were provided by their vocational training. In those cases where students expressed either dissatisfaction with employment, little relationship between training and duties, or that their training provided few or none of the skills needed to perform their jobs, reasons given were too varied to attribute the cause to any one component of the vocational program.

E. Guidance counselors, vocational-technical staff members, vocational work coordinators, and former students were in agreement about the types of information students use in electing a vocational program. Students enroll in vocational programs primarily to prepare for a job and for personal interest. The factors which influence a student's decision to enroll in a trade or work experience are, in order of influence, the student's own interest, parents, friends and classmates, the school staff (vocational counselors, guidance counselors, teachers), information provided by career education, interest inventories, and aptitude tests.

F. The counseling process provided to students upon which they base a decision to enroll in a vocational program appears to be as varied as the number of guidance counselors responding to the survey. No common set of procedures was reported or evident. This fact, plus a number of concerns expressed by students about their own counseling experiences, suggests that the counseling process is not uniform for all students.

G. Responses relative to decreasing the time and costs of transportation to vocational-technical centers were varied. The implications of the suggestions offered could reduce the number of students served by vocational-technical centers, increase other education costs, or require major changes in school boundaries, the vocational program, and vocational-technical facilities.

H. Differences exist in the technology provided in vocational programs and that required during employment. These differences are due jointly to the accelerated rate of advancement in certain technological fields (e.g., data processing and the automotive field) and the wide variety of equipment employed in industry. Nevertheless, the majority of employers and former students report that the transition from school to work is made easily.

I. The issue of offering related science and mathematics credits toward high school graduation after completing one year at the vocational-technical center is an issue in which two viewpoints are expressed. The vocational-technical center staff members support granting related credits in science and mathematics because student motivation to learn a specific skill is greatest when the skill is directly related to a trade.

The Department of Curriculum and various program coordinators hold that mathematics and science emphases in trades are more narrow than in the County programs and that the primary responsibility for instruction and awarding credit in these programs should remain with the program in the high schools.

J. The length of trade offerings and cooperative work experience opportunities appear to be realistic according to students and the various staff members surveyed. Vocational-technical center principals report that trade offerings do vary in length and that such adjustments are made internally at the centers.

K. The majority of trade students who remain at the vo-tech centers during their senior year improve and practice their skills and knowledge according to students and the trade staff. The vocational-technical center principals report that trade students with great form and potential should be encouraged to remain at the center an additional year rather than electing a work experience.

L. Former students, principals, guidance counselors, and the trade teachers report that the Fundamentals of Trades and Industry course assists students in deciding on a specific trade program and assures a student's acceptance into a trade. Specific concerns shared about this course relate to the best location for offering this course, transportation time required to the vocational-technical centers, the age of the student enrolling in the course, and the six-week allotment to each exploratory trade.

M. The first year of most trades is a two semester program. One semester is a student's elected trade, the second semester is a "related" trade. The importance of various pairings was rated by trade and industry teachers. The finding that the strength of the relationships among the pairs varies, coupled with the fact that the main purpose of the pairs is to expose the students to less familiar trades, suggests that this organization should be examined.

II. RECOMMENDATIONS

The following recommendations are based upon a synthesis of the evaluation findings and the observations made in the above summary.

A. The Counseling Process

The variations in the responses given by guidance counselors regarding the nature of the counseling process plus specific concerns expressed by former students and school system staff members suggests that student counseling may not be systematic and comprehensive in all schools for all students. The process of counseling students as they plan their secondary school programs should be examined to ensure that the delivery of counseling services is systematic and comprehensive for all students.

B. Related Credits

The disparate positions relative to the awarding of one credit in mathematics and science following the completion of a year of a trade program should be reexamined jointly by the Vocational and Curriculum Departments in an attempt to resolve the issue in a manner beneficial to the student.

C. Length of Trade Offerings

If the length of the available trade offerings at vocational-technical centers (other than Auto and Diesel Mechanics, Cosmetology, Electronics, and Practical Nursing) does vary beyond the 1,155 hours specified, the nature of these time adjustments should be clarified. In addition, the implications and effects of these time adjustments for student scheduling and program planning should be communicated to the Instructional Division, the Curriculum Department, the Secondary School Directors and Principals, and the Guidance Department.

D. Cooperative Work Experience in Trades

It was noted in the results that, although a cooperative work experience is usually elected by the senior trade student, some seniors remain at the vo-tech center. For trade students with much potential, an additional year of training may be recommended over a year of on-the-job experience. The conditions under which a trade work experience is the best recommendation and those under which an additional year in the vo-tech center best serves the interests and needs of the students should be clarified. Specific procedures for recommending either a trade work experience or an additional year of trade study should be developed and communicated to students, the trade and industry staff, and vocational work coordinators to use as work experience decisions and assignments are made.

E. First Year Trade Pairings

It is not clear from this evaluation how the decision to pair courses during a student's first year of study at a vo-tech center is made or what role the student plays in the decisions. It is clear from the evaluation findings that not all pairings are equally relevant. In addition, the value to the student of scheduling a semester of a student's class time at a vo-tech center to "sell" and recruit for less familiar trades is questioned and is worth examination. It is, therefore, recommended that the pairing of trade courses during a

student's first year of study be examined with the possible objective of exploring other ways to expose students to less familiar trades, making more efficient use of students' time, and, through saving time, serving more students at the vocational-technical centers.

III. ADDITIONAL REACTIONS AND CONCERNS POSED BY THE AD HOC COMMITTEE

At their October 7, 1980, meeting the ad hoc committee, which assisted in guiding and coordinating this evaluation, added the following reactions and concerns to the evaluation recommendations.

A. Transportation

The use of small buses, such as those used in special education, to transport Severna Park Senior High School students from their homes to South River Vocational Technical Center for morning sessions should be explored. In the 1979-80 school year direct transport from home to vo-tech center was used with full-size buses. During the 1980-81 school year these vo-tech students are transported from their homes to Severna Park Senior and then to South River Vocational Technical Center. While the current procedure is more cost effective, it is creating scheduling problems and resulting in students arriving late for trade classes.

B. Ease of Transfer to Equipment/Materials

The committee requests that the following statement be made relative to the ease with which students transfer from the equipment/materials used in school to those required on the job (reported under II. C. 1 and 2 on pages 14 and 15). Concern was expressed about the reasons why 38 percent of the students indicated that the technological level of the equipment/materials used in the school was more advanced than the levels on the job. It is not clear from this finding whether the respondents are comparing real differences in levels of technological advancement or different levels of responsibilities between vo-tech training and those required on the job. The range of tasks required by employment might be narrower than the broader training at a vo-tech center. For example, the primary responsibilities of a trade graduate trained on power equipment might involve using hand equipment on the job. The committee recommends that this finding be investigated further.

An additional observation is given relative to the ease of transfer from school to employment materials/equipment. The ease of transfer may be largely due to the newness of the vo-tech centers and equipment/materials. However, this status will not continue if the equipment is allowed to depreciate. The budget must include adequate funds for the maintenance and update of equipment.

C. Related Credits

The committee suggests that the issue of related credits granted in science and mathematics might be resolved through the staff in vo-tech centers and senior high schools addressing the concern as a cooperative responsibility and endeavor. A greater articulation between the vo-tech center and high school curricula can relate the common components and objectives in mathematics and science. The committee specifically recommends that one senior high school superimpose trade mathematics and science concepts onto an existing unified mathematics or science course and pilot the effectiveness of this joint instructional effort upon students' achievement and motivation to learn.

D. Length of Trade Offerings and First Year Trade Pairings

The length of each trade offering should be examined from the reference point of the time required to teach the trade. The length of trade offerings and first-year trade pairings should be determined primarily to meet the individual needs and achievements of students.

E. Fundamentals of Trade and Industry

The committee recommends that classroom aids be provided to the vo-tech centers for the Fundamentals of Trade and Industry in equity with those provided in the comprehensive high schools. Aids are needed primarily for safety reasons.

Attachment I

COMMITTEE TO COORDINATE THE VOCATIONAL-TECHNICAL EDUCATION EVALUATION

Name	Representing/Position
Yvonne Albrecht	Anne Arundel County Advisory Committee for Vocational Education
Anne Allsopp	Planning Team for Educational Excellence, Board of Education
Norman Anderson	Anne Arundel County Trade Council
Louise Bean	Citizens Advisory Committee
Shirley Carson	Anne Arundel County Association for Retarded Citizens
Dr. Timothy Dangel	Coordinator of Research, Board of Education
Jerome Edwards	Assistant Prinipal, Old Mill Senior High School
Althea Freeman	V.E.P. Teacher, Glen Burnie Senior High School
Jimmy Hammond	Anne Arundel County Trade Council
John Hebb	Coordinator of Work Experience Programs, Board of Education
Mary Horenkamp	Anne Arundel Advisory Committee for Vocational Education
Dr. Delores Hunt	Member, Maryland Advisory Committee on Vocational Education
James Monaghan	Trade Teacher, North Arundel Vocational-Technical Center
Robert Sharp	Coordinator of Industrial Arts, Board of Education
Aretha Stubbs	Assistant Principal, South River Vocational-Technical Center
William Wentworth	Principal, Corkran Junior High School
Theresa Willman	Work Incentive Program

Attachment IIA

SKILL CERTIFICATION

TO THE PROSPECTIVE EMPLOYER

This certificate is given to each student as an index of skills acquired during the course of training at North Arundel Vocational-Technical Center.

The criteria for measuring the skill is determined by the individual shop teacher on a level which can gainful employment in the trade area. It does not be presumed that the students are trained proficiency but rather that they should be considered to be student learners ready to accept the responsibilities of applying skills and knowledge that they have acquired and further developing proficiencies/skills in the trade areas which they have entered.

The skills acquired by the student are identified with the teacher's initials in the appropriate block provided next to each skill learned. A blank which is symbolically marked out is evidence by the teacher that the student has neither not developed proficiency in the skill or has not had the opportunity to learn it.

For additional information, please call the school representing school, 850-3100. You are invited to visit the center at Box 68, Edgewater Road, Severn, Maryland.

Anne Arundel County Public Schools

NORTH ARUNDEL VOCATIONAL-TECHNICAL CENTER
CERTIFICATION RECORD
This certifies that

has completed _____ hours in attendance in and is entitled to use this card as evidence of skills developed for ENTRY LEVEL EMPLOYMENT.

DATE _____ TEACHER _____
APPROVED _____ PRINCIPAL

Major Appliance Repair

	Basic Hand Tools
	Basic Power Tools
	Basic Electricity
	Repair Mechanical System of Washing Machine
	Repair Electrical System of Washing Machine
	Repair Electric Dryer-Heating and Tumbling System
	Repair Gas Dryer-Heating and Tumbling System

	Vent Dryer thru Wall-Window
	Repair or Replace Oven Units on Electric Range
	Repair or Replace Surface Units on Electric Range
	Repair Switches on Electric Range
	Repair or Replace Dishwasher Mechanism
	Repair or Replace Door Gaskets on Dishwasher

	Repair or Replace Water System on Dishwasher
	Repair or Replace Electrical Parts on Room Air Conditioner
	Install Washer
	Install Electrical Dryer
	Install Gas Dryer
	Install Garbage Disposer
	Install Dish Washer
	Install Free Standing Range
	Install Wall Oven

Warehousing

	Measure English System
	Measure Metric System
	Warehouse Terminology
	Product Terminology and Coding
	Use of Manufacturer's Catalogue
	Use of Distributor's Computer Run
	Fixed Locational System
	Random Locational System

	Telephone Communication
	Common Carrier Forms
	Warehouse Forms-Receiving
	Stocking Methods
	Stocking Methods
	Kardex Inventory Control System
	Computer Run Inventory Control System
	Company Order Forms-Order Desk

	Order Picking Procedures
	Order Checking Procedures
	Shipping Forms
	Filing Methods
	Packing Methods and Materials
	Banding Tools and Operation
	Hand Truck, Barrel Truck Operation

Ornamental Horticulture

	Use, Care and Maintenance of Horticulture Hand Tools
	Use, Care and Maintenance of Shredder, Sprayer, Mower, Tiller
	Botany-Plant Parts, Functions and Processes
	Propagation-Sexual Seeds
	Propagation-Asexual
	Transplanting Seedlings or Mature Plants
	Mist System Operation
	Production-Floral Crops

	Assessing and Applying Fertilizer Indoors and Outdoors
	Soils-Mixing, Sterilizing and Watering
	Compost Pile-Preparation/Care
	Plant Identification-Trees, Shrubs and Flowers
	Diseases and Insect Causes and Control Pesticides
	Trees, Shrubs-Planting, Staking and Fertilizing
	Flowers-Wiring and Taping

	Making Corsages, Wreaths, Sprays and Wedding Flowers
	Turf-Establishment and Renovation
	Tractor, Use and Maintenance
	Nursery Stock-Plant Transplant, Partition
	Landscape Design
	Greenhouse-Lighting, Ventilation, Shading, Heating and Bench Arrangement
	Construction-Cold Frame Greenhouse

*NOTE: 8" x 4" Certificates reduced in size for purposes of this attachment.

Attachment IIB

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS
T&I
TRAINING PLAN School _____

Student's name _____ Firm name _____
Student's address _____ Firm address _____
Student's phone _____ Training sponsor _____
Career objective _____

SKILL DEVELOPMENT	Grade Level 10	11	12	Work Exp.
PERSONAL DEVELOPMENT				
1. Punctuality				
2. Personal appearance				
3. Health and hygiene habits				
4. Dependability				
5. Works well alone				
6. Works well with peers				
7. Follows directions				
8. Accepts criticism				
9. General attitude				
10. Safety practices				

Certified by: (Teacher and/or Coordinator)
Level 10 _____ Date _____
Level 11 _____ Date _____
Level 12 _____ Date _____

Check task under appropriate grade level after it is satisfactorily performed. (S or U)

For additional comments, please use reverse side of this sheet.

Attachment IIC

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS
COP
TRAINING PLAN School _____

Student's name _____ Firm name _____
Student's address _____ Firm address _____
Student's phone _____ Training sponsor _____
Career objective _____

SKILL DEVELOPMENT	Grade Level 10	11	12	Work Exp.
PERSONAL DEVELOPMENT				
1. Punctuality				
2. Personal appearance				
3. Health and hygiene habits				
4. Dependability				
5. Works well alone				
6. Works well with peers				
7. Follows directions				
8. Accepts criticism				
9. General attitude				
10. Safety practices				

Certified by: (Teacher and/or Coordinator)
Level 10 _____ Date _____
Level 11 _____ Date _____
Level 12 _____ Date _____

Check task under appropriate grade level after it is satisfactorily performed.

For additional comments, please use reverse side of this sheet.

Attachment IID

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS
COE
TRAINING PLAN School _____

Student's name _____ Firm name _____
Student's address _____ Firm address _____
_____ phone _____ _____
Career objective _____ Training Sponsor _____

SKILL DEVELOPMENT	Grade Level 10	11	12	Work Exp.
Ten Key				
Rotary Calculator				
Transcriber-Dictating equipment				
Telephone techniques				
Typing skills				
Filing procedures				
Duplicating Processes				
Bookkeeping machine				
Electronic calculator				
Proofreading and corrections				
PERSONAL DEVELOPMENT				
1. Punctuality				
2. Personal appearance				
3. Health and hygiene habits				
4. Dependability				
5. Works well alone				
6. Works well with peers				
7. Follows directions				
8. Accepts criticism				
9. General attitude				
10. Safety practices				

Certified by: (Teacher and/or Coordinator)
Level 10 _____ Date _____
Level 11 _____ Date _____
Level 12 _____ Date _____

Check task under appropriate grade level after it is satisfactorily performed.

For additional comments, please use reverse side of this sheet.

Attachment IIE

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS
DE
TRAINING PLAN School _____

Student's name _____ Firm name _____
Student's address _____ Firm address _____
Student's phone _____ Training sponsor _____
Career objective _____

SKILL DEVELOPMENT	Grade Level 10	11	12	Work Exp.
Operate Cash Register				
Complete an Employment Application				
Interview Properly				
Write a Resume				
Give a Sales Demonstration on a particular product				
Know Basis of a Display				
How to Research Product Information				
Develop a Display Sketch				
Develop an Advertisement				
Calculate Percentages for Mark-Up of Items				
Develop Store Layouts				
PERSONAL DEVELOPMENT				
1. Punctuality				
2. Personal appearance				
3. Health and hygiene habits				
4. Dependability				
5. Works well alone				
6. Works well with peers				
7. Follows directions				
8. Accepts criticism				
9. General attitude				
10. Safety practices				

Certified by: (Teacher and/or Coordinator)
Level 10 _____ Date _____
Level 11 _____ Date _____
Level 12 _____ Date _____

Check task under appropriate grade level after it is satisfactorily performed. (U or S)

For additional comments, please use reverse side of this sheet.

Attachment IIF

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS
HOP
TRAINING PLAN

School _____

Student's name _____
Student's address _____
Student's phone _____ Training sponsor _____
Career objective _____

SKILL DEVELOPMENT	Grade Level 11	12	Work Exp.
Common Learning Activities:			
Orientation to Health Care Facilities & Occupations			
Exploration of Allied Health Occupations within Hospital			
Body Systems-Structure and Function & Related Conditions			
Medical Ethics			
Medical Asepsis			
Medical Terminology			
Communication Skills			
Measurements-Clinical Weights & Measures			
Vital Signs-Measurement and Recordation			
American Red Cross Nursing Home & Hospital Aides Course			
Work Experience Preparation			
Program Policies			
Job Preparation			
Job Responsibility			
Progress on the job			
PERSONAL DEVELOPMENT			
1. Punctuality			
2. Personal appearance			
3. Health and hygiene habits			
4. Dependability			
5. Works well alone			
6. Works well with peers			
7. Follows directions			
8. Accepts criticism			
9. General attitude			
10. Safety practices			

Certified by: (Teacher and/or Coordinator)

Level 11 _____ Date _____
Level 12 _____ Date _____

Check task under appropriate grade level after it is satisfactorily performed. (S or U)

For additional comments, please use reverse side of this sheet.

Attachment IIG

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
COOPERATIVE WORK EXPERIENCE PROGRAMS

DATA PROCESSING TRAINING PLAN

School _____

Student's name _____ Firm's name _____
Student's address _____ Firm's address _____
Student's phone _____ Firm's phone _____
Career objective _____ Training sponsor _____

SKILL DEVELOPMENT (Classroom)	Grade Level 11	Grade Level 12	Work Exp.
Operation of Data Entry Devices:			
CRT			
Keypunch machine/preparation of program card			
Operation of line printer			
Operation of data recorder			
Computer Programming:			
Simple business problems in COBOL			
Simple business problems in			
Advanced business problems in COBOL			
Advanced business problems in			
Debugging			
Testing			
Documentation			
Preparation of flow charts			

PERSONAL DEVELOPMENT

1. Punctuality			
2. Personal appearance			
3. Health and hygiene habits			
4. Dependability			
5. Works well alone			
6. Works well with peers			
7. Follows directions			
8. Accepts cirticism			
9. General attitude			
10. Safety practices			

Certified by: (Teacher and/or Coordinator)

Level 11 _____ Date _____

Level 12 _____ Date _____

Check task under appropriate grade level by marking an S, U or N/A

For additional comments, please use reverse side of this sheet.

10/79

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS
Survey of Former Students

Dear Former Vocational Student:

At the request of the Superintendent of Schools and the Board of Education, I am coordinating an evaluation of vocational education Trade and Cooperative Work Experience Programs. This evaluation will involve asking some questions about these programs of former students who have been enrolled in them. Would you please take a little time to complete this survey. Only by your doing this can I gather important information from former students who were enrolled in vocational programs. All information will be kept confidential and will be used to help vocational programs work to their best to meet the needs and interests of students. Please return the completed survey in the attached envelope by July 18, 1980.

Thank you,
Timothy R. Dangel
Coordinator of Research

DIRECTIONS: PLEASE GIVE THE REQUESTED INFORMATION BY CHECKING THE MOST ACCURATE RESPONSE FOR EACH ITEM OR BY WRITING A COMMENT WHERE IT IS REQUESTED. (THE NUMBERS IN PARENTHESES ARE CODES TO PERMIT A COMPUTER ANALYSIS OF THIS SURVEY. YOU MAY IGNORE THEM.)

Sex: _____Male _____Female

Did you graduate from a public high school in Anne Arundel County?
_____(0) Yes _____(1) No

PLEASE INDICATE THE TRADE AND INDUSTRY AND COOPERATIVE WORK EXPERIENCE PROGRAMS IN WHICH YOU WERE ENROLLED IN SENIOR HIGH SCHOOL

(0) Trade and Industry (A)

(BC)
_____(01) Agriculture Production
_____(02) Air Conditioning Service and Repair
_____(03) Automobile and Fender Repair
_____(04) Automobile Mechanics
_____(05) Home Improvement and Repair
_____(06) Carpentry
_____(07) Cosmetology
_____(08) Diesel Mechanics
_____(09) Drafting
_____(10) Electrical Occupations
_____(11) Electronic Occupations
_____(12) Food Services
_____(13) Graphic Arts
_____(14) Ornamental Horticulture
_____(15) Hospitality and Tourism
_____(16) Machine Shop
_____(17) Major Appliance Repair
_____(18) Marine Services and Repair
_____(19) Masonry
_____(20) Plumbing
_____(21) Practical Nursing
_____(22) Sheet Metal
_____(23) Small Engine Maintenance and Repair
_____(24) Warehousing
_____(25) Welding
_____(1) None (A)

(0) Work Experience Programs (D)

(E)
_____(1) Business Data Processing
_____(2) Cooperative Office Education
_____(3) Cooperative Occupations Program
_____(4) Distributive Education
_____(5) Health Occupations Program
_____(6) Trade and Industry
_____(7) Vocational Experience Program
_____(1) None (D)

Did you complete your trade program or cooperative work experience? (F)

_____(0) Yes
_____(1) No (Briefly explain why) _____

Student's Survey - page 2

1. What is your current employment or educational status? (Check all that apply)

_____(1) Employed full-time
_____(2) Employed part-time
_____(3) Enrolled in a two-year junior/community college
_____(4) Enrolled in a technical/business institution
_____(5) Enrolled in a four-year college or university
_____(6) Homemaker
_____(7) Unemployed
_____(8) Other (explain)_____

2. How soon after you left school did you begin your first job?

_____(1) I was already employed
_____(2) Less than six months
_____(3) Six months to a year
_____(4) More than a year
_____(5) I never obtained a job

3. How much difficulty did you have in obtaining your first job?

_____(1) None
_____(2) A little
_____(3) A lot
_____(4) I could not get a job

4. Who helped you find your first job?

_____(1) School guidance counselor
_____(2) Vocational work coordinator
_____(3) Vocational teacher
_____(4) High school teacher
_____(5) Parents
_____(6) Friends
_____(7) I found it myself
_____(8) Other (Specify) _____

5. How satisfied are you with your present job?

_____(1) Very satisfied
_____(2) Satisfied
_____(3) Neither satisfied nor dissatisfied
_____(4) Dissatisfied
_____(5) Very dissatisfied } (Why) _____

Which of the following factors do you believe were important in your being hired for your current job? Please rank the following factors (Items 6 through 11) by coding a 1 for the most important, 2 for the next in importance, and so on.

_____6. Skill certification card
_____7. Total high school record
_____8. Ability to learn the demands of the job
_____9. Letters of recommendations
_____10. Cooperative work experience
_____11. Other reasons (specify)_____

_____

12. Were you a member of any teams, clubs or organizations while in high school?

_____(1) No
_____(2) Yes, an officer
_____(3) Yes, a very active member
_____(4) Yes, not a very active member

13. If you were not a member of any school teams, clubs, or organizations, what was the primary reason?

_____(1) I did not have time in my schedule for it
_____(2) I was not interested
_____(3) I was working
_____(4) I could not return from the vocational-technical center in time to join an activity, team, or club
_____(5) Other (Specify)_____

14. If you answered yes to Item 12, to what degree did you feel a part of the team, club or organization?

_____(1) To a great degree
_____(2) To an adequate degree
_____(3) Very little
_____(4) Not at all } (Briefly explain) _____

15. Would you have remained in school through graduation if the trade or cooperative work experience had been unavailable to you?

_____(0) I did not graduate from high school
_____(1) Yes
_____(2) No (Briefly explain) _____

16. How closely is your present job related to your vocational program?

_____(1) The same for which I was trained
_____(2) Closely related to my training
_____(3) Somewhat related to my training
_____(4) Not related to my training

17. If your present job is NOT related to your vocational program, what is the primary reason why?

_____(1) I could not get a job in the area for which I was trained.
_____(2) My training was flexible enough to offer me several choices of jobs
_____(3) My interests changed
_____(4) My present job offers higher pay
_____(5) My schooling lead to another interest or job
_____(6) Other (Specify) _____

18. How many of the basic skills you need to perform your job did your vocational training give you?

_____(1) All the basic skills
_____(2) Most of the skills
_____(3) Some of the skills
_____(4) Few of the skills
_____(5) None of the skills } (Briefly explain)_____

19. How much of the theory you need to perform your job did your vocational training give you?

_____(1) All the theory
_____(2) Most of the theory
_____(3) Some of the theory
_____(4) Little of the theory
_____(5) None of the theory } (Briefly explain)_____

20. Are there skills, theories, or knowledge required by your job that were not provided in your vocational program?

_____(1) No
_____(2) Yes (Briefly explain) _____

21. If you had not completed your trade program or cooperative work experience, do you think you could have obtained your present job?

_____(1) No
_____(2) Yes (Briefly explain) _____

22. Are there fellow employees doing a similar job to yours who did not graduate from a trade program or did not have work experience in high school?

_____(1) Yes
_____(2) No

23. What was the main reason you chose your specific trade program or cooperative work experience?

_____(1) To earn graduation credit
_____(2) To prepare me for a job
_____(3) To prepare me to enter a junior or community college
_____(4) To prepare me to enter a four-year college or university
_____(5) To prepare me to enter a trade or business school
_____(6) Personal interest
_____(7) Other (Briefly explain) _____

24. How closely did the equipment and materials on which you were trained in vocational-technical school match the equipment/materials you use on the job?

_____(1) The equipment/materials I use on the job and that I learned on are of an equal level of advancement.
_____(2) The equipment/materials which I used in school are more advanced than the equipment/materials I use on the job.
_____(3) The equipment/materials which I use on the job are more advanced than the equipment I learned on.

25. How easy or difficult was it for you to learn to use the equipment/materials in your job after learning your trade in the vocational-technical center?

_____(1) Very easy
_____(2) Somewhat easy
_____(3) Neither difficult nor easy
_____(4) Somewhat difficult
_____(5) Very difficult } (Why) _____

26. Who influenced you most in making the decision to enroll in a trade or cooperative work experience?

_____(1) Parents/guardians (or foster parents)
_____(2) Teachers
_____(3) Guidance counselor
_____(4) Vocational work coordinator
_____(5) Friends/classmates
_____(6) Other (Explain) _____

27. Was the trade or cooperative work experience your first choice?

_____(1) Yes
_____(2) No (What was your first choice?)

_____

28. If you answered NO to item 27, what was the reason you did not enroll in your first choice?

_____(1) The program was already full
_____(2) I did not have time in my schedule for it
_____(3) I was advised not to elect it (Why)_____

_____

_____(4) I was not accepted for it (Why)_____

_____

_____(5) Other (Explain) _____

ITEMS 29 THROUGH 31 ARE TO BE ANSWERED ONLY IF YOU HAVE ENROLLED IN A COOPERATIVE WORK EXPERIENCE.

29. Currently cooperative work experience programs last one year. How realistic was the length of your work experience to prepare you for employment?

_____(1) The length of my work experience was about right
_____(2) My work experience needed to be longer to be sufficient (estimate the length of time) _____
_____(3) My work experience could be accomplished in less time (estimate the time) _____

30. If you enrolled in a work experience, were you employed in this job over the summer months?

_____(1) Yes
_____(2) No

31. Did the employer that provided your work experience hire you?

_____(1) Yes
_____(2) No

ITEMS 32 THROUGH 44 ARE TO BE ANSWERED ONLY IF YOU HAVE ENROLLED IN A TRADE PROGRAM.

32. If you did not elect a cooperative work experience in grade twelve, what was the primary reason?

_____(1) My program did not provide for it (Cosmetology or Practical Nursing)
_____(2) Jobs were not available
_____(3) I did not wish to
_____(4) My parents would not permit me
_____(5) I did not have the necessary transportation
_____(6) The principal/teacher coordinator did not recommend it
_____(7) I wanted to stay in the classroom or shop
_____(8) Other _____

33. If you remained at the vocational-technical center during your senior year instead of electing a cooperative work experience, what impact did this have on your skills?

_____(1) I learned new skills and information
_____(2) I practiced the skills and information I had learned
_____(3) I repeated skills and information I already knew

34. Did you enroll in the Trade and Industry Fundamentals course in grade nine?

_____(1) Yes (Please answer items 35-38.)
_____(2) No (Go to Item 39.)
_____(3) The Fundamentals course was not offered when I was in grade 9. (Go to Item 39.)

35. Did the course help you to decide on the best trade program for you?

_____(1) Yes
_____(2) No (Why?) _____

36. Did you complete the Fundamentals course?

_____(1) Yes
_____(2) No (Why?) _____

37. In your opinion where is the best location for the Trade and Industry Fundamentals course to be offered?

_____(1) Vocational-Technical Center (Why?) _____
_____(2) Junior or Senior High School (Why?) _____

38. To what degree do you believe that enrolling in the Fundamentals course helped to ensure your acceptance into a trade program?

_____(1) To a great degre
_____(2) To an adequate degree
_____(3) Very little
_____(4) Not at all } (Briefly Explain) _____

39. Currently most trade programs are three years in length. How realistic is this amount of time to help prepare you for employment?

_____(1) The time was about right
_____(2) More time was needed to teach the program (Estimate the time needed) _____
_____(3) The program could be taught in less time (Estimate the time required) _____

40. Did the English that you learned in your home school help you to meet the language demands of your job?

_____(1) The language skills I learned and the skills needed in my job are about right
_____(2) I learned language skills that I have not used in my job
_____(3) I need language skills that I did not learn in school.

41. Did the mathematics you learned at your home school help you meet the mathematics demands of your job?

_____(1) The mathematics skills I learned and the skills needed in my job are about right
_____(2) I learned mathematics skills that I have not used in my job
_____(3) I need mathematics skills that I did not learn in school

42. Did the science you learned at your home high school help you to meet the science demands of your job?

_____(1) The science skills I learned and the skills needed on my job are about right
_____(2) I learned science skills that I have not used on my job
_____(3) I need science skills that I did not learn in school

43. Did the mathematics you learned at the vocational-technical center help you to meet the mathematics demands of your job?

_____(1) The mathematics skills I learned and the skills needed in my job are about right
_____(2) I learned mathematics skills that I do not use on my job
_____(3) I need mathematics skills that I did not learn at the center

44. Did the science theory you learned at the vocational-technical center help you to meet the science demands of your job?

_____(1) The science theory I learned and the skills needed in my job are about right
_____(2) I learned science skills that I do not use on my job
_____(3) I need science skills that I did not learn at the center

45. Is there anything else you would like us to know about the Trade or Cooperative Work Experience Programs?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

PLEASE RETURN THE SURVEY IN THE ENVELOPE PROVIDED.

Telephone Sample

Attachment IV

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS
Survey of Former Students

Dear Former Vocational Student:

At the request of the Superintendent of Schools and the Board of Education, I am coordinating an evaluation of vocational education Trade and Cooperative Work Experience Programs. This evaluation will involve asking some questions about these programs of former students who have been enrolled in them. Would you please take a little time to complete this survey. Only by your doing this can I gather important information from former students who were enrolled in vocational programs. All information will be kept confidential and will be used to help vocational programs work to their best to meet the needs and interests of students. Please return the completed survey in the attached envelope by July 15, 1980.

Thank you,
Timothy R. Dangel
Timothy R. Dangel
Coordinator of Research

DIRECTIONS: PLEASE GIVE THE REQUESTED INFORMATION BY CHECKING THE MOST ACCURATE RESPONSE FOR EACH ITEM OR BY WRITING A COMMENT WHERE IT IS REQUESTED. (THE NUMBERS IN PARENTHESES ARE CODES TO PERMIT A COMPUTER ANALYSIS OF THIS SURVEY. YOU MAY IGNORE THEM.)

Sex: _____Male _____Female

Did you graduate from a public high school in Anne Arundel County?
_____(0) Yes _____(1) No

PLEASE INDICATE THE TRADE AND INDUSTRY AND COOPERATIVE WORK EXPERIENCE PROGRAMS IN WHICH YOU WERE ENROLLED IN SENIOR HIGH SCHOOL

(0) Trade and Industry (A)

(BC)
_____(01) Agriculture Production
_____(02) Air Conditioning Service and Repair
_____(03) Automobile and Fender Repair
_____(04) Automobile Mechanics
_____(05) Home Improvement and Repair
_____(06) Carpentry
_____(07) Cosmetology
_____(08) Diesel Mechanics
_____(09) Drafting
_____(10) Electrical Occupations
_____(11) Electronic Occupations
_____(12) Food Services
_____(13) Graphic Arts
_____(14) Ornamental Horticulture
_____(15) Hospitality and Tourism
_____(16) Machine Shop
_____(17) Major Appliance Repair
_____(18) Marine Services and Repair
_____(19) Masonry
_____(20) Plumbing
_____(21) Practical Nursing
_____(22) Sheet Metal
_____(23) Small Engine Maintenance and Repair
_____(24) Warehousing
_____(25) Welding
_____(1) None (A)

(0) Work Experience Programs (D)

(E)
_____(1) Business Data Processing
_____(2) Cooperative Office Education
_____(3) Cooperative Occupations Program
_____(4) Distributive Education
_____(5) Health Occupations Program
_____(6) Trade and Industry
_____(7) Vocational Experience Program
_____(1) None (D)

Did you complete your trade program or cooperative work experience? (F)

_____(0) Yes
_____(1) No (Briefly explain why) _____

4. Who helped you find your first job?

_____(1) School guidance counselor
_____(2) Vocational work coordinator
_____(3) Vocational teacher
_____(4) High school teacher
_____(5) Parents
_____(6) Friends
_____(7) I found it myself
_____(8) Other (Specify) _____

5. How satisfied are you with your present job?

_____(1) Very satisfied
_____(2) Satisfied
_____(3) Neither satisfied nor dissatisfied
_____(4) Dissatisfied
_____(5) Very dissatisfied } (Why) _____

16. How closely is your present job related to your vocational program?

_____(1) The same for which I was trained
_____(2) Closely related to my training
_____(3) Somewhat related to my training
_____(4) Not related to my training

17. If your present job is NOT related to your vocational program, what is the primary reason why?

_____(1) I could not get a job in the area for which I was trained.
_____(2) My training was flexible enough to offer me several choices of jobs
_____(3) My interests changed
_____(4) My present job offers higher pay
_____(5) My schooling lead to another interest or job
_____(6) Other (Specify) _____

18. How many of the basic skills you need to perform your job did your vocational training give you?

_____(1) All the basic skills
_____(2) Most of the skills
_____(3) Some of the skills
_____(4) Few of the skills
_____(5) None of the skills } (Briefly explain)_____

ANSWER ITEM 29 ONLY IF YOU HAVE ENROLLED IN A COOPERATIVE WORK EXPERIENCE.

29. Currently cooperative work experience programs last one year. How realistic was the length of your work experience to prepare you for employment?

_____(1) The length of my work experience was about right
_____(2) My work experience needed to be longer to be sufficient (estimate the length of time) _____
_____(3) My work experience could be accomplished in less time (estimate the time) _____

26. Who influenced you most in making the decision to enroll in a trade or cooperative work experience?

_____(1) Parents/guardians (or foster parents)
_____(2) Teachers
_____(3) Guidance counselor
_____(4) Vocational work coordinator
_____(5) Friends/classmates
_____(6) Other (Explain) _____

27. Was the trade or cooperative work experience your first choice?

_____(1) Yes
_____(2) No (What was your first choice?)

_____

28. If you answered NO to item 27, what was the reason you did not enroll in your first choice?

_____(1) The program was already full
_____(2) I did not have time in my schedule for it
_____(3) I was advised not to elect it (Why)_____

_____

_____(4) I was not accepted for it (Why)_____

_____

_____(5) Other (Explain) _____

ANSWER ITEM 33 ONLY IF YOU HAVE ENROLLED IN A TRADE PROGRAM.

33. If you remained at the vocational-technical center during your senior year instead of electing a cooperative work experience, what impact did this have on your skills?

_____(1) I learned new skills and information
_____(2) I practiced the skills and information I had learned
_____(3) I repeated skills and information I already knew

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS

Employer Interview Form

1. Type of Business? _____

2. What is the number of employees?

_____(1) 1 to 5
_____(2) 6 to 10
_____(3) 11 to 25
_____(4) 26 to 50
_____(5) 51 to 100
_____(6) More than 100

3. Does this business hire graduates of the Anne Arundel County Vocational Trade and Industry Program?

_____(1) Yes (Continue with item 4)
_____(2) No
_____(3) I don't know } (Go to item 19)

4. How satisfied are you with the on-the-job performance of vocational program graduates? (Particularly graduates of trade programs)

_____(1) Very satisfied
_____(2) Satisfied
_____(3) Neither satisfied nor dissatisfied.
_____(4) Dissatisfied
_____(5) Very dissatisfied } (Briefly explain) _____

5. Based on your general experience with all vocational program graduates employed by this company, please rate the overall quality of their training and preparation.

_____(1) Excellent
_____(2) Good
_____(3) Fair
_____(4) Poor } (Briefly explain) _____

6. Have the skills listed on the students' skill cards been accurate compared with your observations of the employees' skill performances on the job?

_____(1) Always accurate
_____(2) Usually accurate
_____(3) Sometimes accurate
_____(4) Rarely accurate
_____(5) Never Accurate } (Briefly explain) _____

7. What are the common strengths which you have noted in your employees who are graduates of the vocational programs? (Particularly of trade programs)

8. Are there any common deficiencies which you have noted in your employees who are graduates of the vocational programs? (Particularly of trade programs)

9. What testing or assessment, if any, is required at the time of application for employment?

10. What, if any, training program or additional education is required upon employment for skilled/technical positions?

11. Realizing that every new employee needs to be introduced to your system of operations, how would you rate the amount of training time required by vocational program graduates compared to high school graduates without vocational training?

_____(1) Much less training is needed by vocational graduates
_____(2) Less training is needed by vocational graduates
_____(3) The same amount of training is needed by both groups
_____(4) More training is needed by vocational graduates
_____(5) Much more training is needed by vocational graduates

(Briefly Explain)_____

12. When I employ new people, I prefer to hire:

_____(1) Vocational education graduates
_____(2) Non-vocational graduates (Briefly explain) _____

13. How does the salary of a vocational graduate compare with a non-vocational high school graduate in a similar position?

_____(1) The salary of the vocational graduate is likely to be higher
_____(2) The salaries of both are likely to be the same
_____(3) The salary of the vocational graduate is likely to be lower (Why?) _____
_____(4) I don't know

14. At the beginning of employment how does the salary of a high school graduate with work experience compare with one without this experience?

_____(1) The salary of the graduate with work experience is likely to be higher
_____(2) The salaries of both are likely to be the same
_____(3) The salary of the graduate with work experience is likely to be lower (Why?) _____
_____(4) I don't know

15. During the initial period of employment, how does the rate of advancement of a vocational graduate compare with a non-vocational graduate in a similar position?

_____(1) The rate of advancement of the vocational graduate is likely to be more rapid
_____(2) The rate of advancement of both is likely to be the same
_____(3) The rate of advancement of the vocational graduate is likely to be slower (Why?) _____
_____(4) I don't know

16. During the initial period of employment, how does the rate of advancement of a high school graduate with work experience compare with one without this experience?

_____(1) The rate of advancement of the graduate with work experience is likely to be more rapid
_____(2) The rate of advancement of both is likely to be the same
_____(3) The rate of advancement of the graduate with work experience is likely to be slower (Why?)_____
_____(4) I don't know

17. All else being equal, from which of the following categories of job applicants do you hire the most employees for similar skill/technical level positions?

_____(1) Trade graduates with cooperative work experience
_____(2) Trade graduates without cooperative work experience
_____(3) High school graduates with a cooperative work experience in an area other than trades
_____(4) Non-vocational graduates without cooperative work experience
_____(5) I don't know

18. The issue of technological differences between education and industry is of concern to educators. Is the transfer from educational equipment to business and industry equipment/materials made easily or is it difficult for students to make upon employment? (Why?)

Attachment V-B

19. Does this business hire vocational students as part of the Cooperative Work Experience Program?

____(1) Yes (Continue to Item 21)
____(2) No
____(3) I don't know } (Continue to Item 20)

20. Do you think you would be interested in providing such an experience?

____(1) Yes
____(2) No } (CONCLUDE INTERVIEW)

21. How often does this cooperative work experience extend through the summer months?

____(1) Almost always
____(2) Usually
____(3) Sometimes
____(4) Rarely
____(5) Almost never } (Briefly explain)_____

22. Do you hire cooperative work experience students on a part- or full-time basis after graduation?

____(1) Almost always
____(2) Usually
____(3) Sometimes
____(4) Rarely
____(5) Almost never } (Briefly explain) _____

23. What is the current schedule for cooperative work experience students? _____

_____

24. Does this schedule best meet the needs of both students and this business?

____(1) Yes
____(2) No

25. If you answer to Item 24 is No, what schedule would you suggest?

26. Is there anything else you would like us to know about the Trade or Cooperative Work Experience Programs?

THANK YOU FOR AGREEING TO PROVIDE THE INFORMATION REQUESTED IN THIS INTERVIEW.

Attachment VI

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS

Trade and Industry Teacher's Survey

Dear Teacher:

At the direction of the Superintendent of Schools and the Board of Education, I am coordinating an evaluation of vocational education Trade and Cooperative Work Experience Programs. The evaluation process involves surveying or interviewing students who have enrolled in a trade or work experience program, employers who hire vocational program graduates and the staff members of the school system. You as a teacher of a trade are asked to respond to the specific items on this survey. All responses will be kept confidential. The information gathered will be used to help vocational programs work to their best to meet the various needs and interests of students. Please return the completed survey in the attached envelope by July 18, 1980.

Thank you,
Timothy R. Dangel
Coordinator of Research

DIRECTIONS: PLEASE GIVE THE REQUESTED INFORMATION BY CHECKING THE APPROPRIATE RESPONSE FOR EACH ITEM OR BY WRITING A COMMENT. (THE NUMBERS IN PARENTHESES ARE CODES TO PERMIT A COMPUTER ANALYSIS OF THIS SURVEY. YOU MAY IGNORE THEM.)

LISTED BELOW ARE SPECIFIC TRADES OFFERED IN VOCATIONAL-TECHNICAL CENTERS. EACH TRADE PROGRAM IS OFFERED AS A THREE-YEAR PROGRAM IN GRADES TEN THROUGH TWELVE. THE LENGTH OF EACH OFFERING IS 1155 HOURS WITH THE EXCEPTIONS OF AUTO AND DIESEL MECHANICS (1395 HOURS), COSMETOLOGY (1635 HOURS), ELECTRONICS (1395 HOURS) AND PRACTICAL NURSING (1575 HOURS). PLEASE INDICATE AFTER EACH PROGRAM IF THE AMOUNT OF ALLOTTED TIME IS A (TOO MUCH TIME), B (ABOUT THE RIGHT AMOUNT OF TIME), OR C (TOO LITTLE TIME). IF YOU CHOOSE A OR C, PLEASE INDICATE YOUR ESTIMATE OF A MORE REALISTIC AMOUNT OF TIME.

		Too Much Time	About the Right Amount of Time	Too Little Time	Estimate of Time
		A(1)	B(2)	C(3)	
1.	Agriculture	A	B	C	_____
2.	Air Conditioning	A	B	C	_____
3.	Appliance Repair	A	B	C	_____
4.	Auto Body and Fender Repair	A	B	C	_____
5.	Auto and Diesel Mechanics	A	B	C	_____
6.	Carpentry	A	B	C	_____
7.	Cosmetology	A	B	C	_____
8.	Drafting	A	B	C	_____
9.	Electricity	A	B	C	_____
10.	Electronics	A	B	C	_____
11.	Foods	A	B	C	_____
12.	Home Improvement	A	B	C	_____
13.	Horticulture	A	B	C	_____
14.	Hospitality	A	B	C	_____
15.	Machine Shop	A	B	C	_____
16.	Marine Repair	A	B	C	_____
17.	Masonry	A	B	C	_____
18.	Plumbing	A	B	C	_____
19.	Practical Nursing	A	B	C	_____
20.	Sheet Metal	A	B	C	_____
21.	Small Engines	A	B	C	_____
22.	Warehousing	A	B	C	_____
23.	Welding	A	B	C	_____

Teacher's Survey - page 2

LISTED BELOW ARE THE POSSIBLE SEQUENCES OF PAIRED COURSE OFFERINGS IN TRADE AND INDUSTRY AT GRADE TEN. FOR EACH PAIR INDICATE HOW IMPORTANT THE FIRST COURSE IS TO THE STUDENT ENROLLING IN THE SECOND AS A TRADE PROGRAM. FOR EXAMPLE, IN THE FIRST PAIR, HOW IMPORTANT IS AN APPLIANCE REPAIR SEMESTER COURSE TO THE STUDENT ELECTING ELECTRICITY IN GRADES ELEVEN AND TWELVE.

		Very Important	Somewhat Important	Slightly Important	Not Important
		A(1)	B(2)	C(3)	D(4)
24.	Appliance Repair for Electricity	A	B	C	D
25.	Electricity for Appliance Repair	A	B	C	D
26.	Auto Body Repair for Welding	A	B	C	D
27.	Welding for Auto Body Repair	A	B	C	D
28.	Air Conditioning for Electricity	A	B	C	D
29.	Electricity for Air Conditioning	A	B	C	D
30.	Home Improvement for Masonry	A	B	C	D
31.	Masonry for Home Improvement	A	B	C	D
32.	Food Service for Horticulture	A	B	C	D
33.	Horticulture for Food Service	A	B	C	D
34.	Machine Shop for Plumbing	A	B	C	D
35.	Plumbing for Machine Shop	A	B	C	D
36.	Sheet Metal for Carpentry	A	B	C	D
37.	Carpentry for Sheet Metal	A	B	C	D
38.	Drafting for Graphic Arts	A	B	C	D
39.	Graphic Arts for Drafting	A	B	C	D
40.	Warehousing for Food Services	A	B	C	D
41.	Food Services for Warehousing	A	B	C	D
42.	Carpentry for Masonry	A	B	C	D
43.	Masonry for Carpentry	A	B	C	D
44.	Small Engines for Marine Repair	A	B	C	D
45.	Marine Repair for Small Engines	A	B	C	D
46.	Electricity for Home Improvement	A	B	C	D
47.	Home Improvement for Electricity	A	B	C	D

IN EACH OF THE CONTENT AREAS CAN ANY OF THE REQUIRED CREDITS TOWARD GRADUATION BE MET BY EXISTING TRADE COURSES OR COURSES PROPOSED FOR VOCATIONAL-TECHNICAL CENTERS? PLEASE CIRCLE THE NUMBER OF CREDITS WHICH ARE OR COULD BE MET AND SPECIFY THE COURSES (EITHER EXISTING OR PROPOSED).

Program Area	Credits Met	Specific Courses: Existing	Specific Courses: Proposed
48. English Language Arts	4 3 2 1 0		
49. Social Studies	3 2 1 0		
50. Science	2 1 0		
51. Mathematics	2 1 0		

52. To what degree does the Fundamentals of Trade and Industry course help students to choose their desired trade program?

____(1) To a great degree
____(2) To an adequate degree
____(3) Very little
____(4) Not at all

(Briefly explain) _____

53. To what degree does enrolling in the Fundamentals of Trade and Industry course help to ensure that a student will be accepted into a trade program?

_____(1) To a great degree
_____(2) To an adequate degree
_____(3) Very little
_____(4) Not at all } (Briefly explain) _____

54. To what degree are ninth grade students with an interest in learning a trade encouraged to enroll in the Fundamentals of Trade and Industry course?

_____(1) To a great degree degree
_____(2) To an adequate
_____(3) Very little
_____(4) Not at all } (Briefly explain) _____

55. Upon what kinds of information do students primarily enroll in a trade?

_____(1) Interest inventories
_____(2) Aptitude tests
_____(3) Their own interests
_____(4) Career education
_____(5) Other (Briefly explain) _____

56. Who most influences students to enroll in a trade?

_____(1) Parents/guardians (or foster parents)
_____(2) Teachers
_____(3) Guidance counselors
_____(4) Vocational work coordinators
_____(5) Friends/classmates
_____(6) Others (Briefly explain) _____

57. What is the main reason students choose specific trade programs?

_____(1) To earn graduation credit
_____(2) To prepare for a job
_____(3) To prepare to enter a junior or community college
_____(4) To prepare to enter a four-year college or university
_____(5) To prepare to enter a trade or business school
_____(6) Personal interest
_____(7) Other (Briefly explain) _____

58. If students remain at the vocational-technical center during their senior year instead of electing a cooperative work experience, what impact does this have on their skills?

_____(1) Their level of skills and knowledge is improved
_____(2) They practice skills and information already learned
_____(3) Students primarily repeat skills and information they already know

59. Is there anything else you would like us to know about the Trade and Industry Program?

THANK YOU FOR COMPLETING THIS SURVEY

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS

Guidance Counselor Survey

Dear Guidance Counselor:

At the direction of the Superintendent of Schools and the Board of Education, I am coordinating an evaluation of vocational education Trade and Cooperative Work Experience Programs. The evaluation process involves surveying or interviewing students who were enrolled in a trade or cooperative work experience program, employers who hire vocational program graduates, and the staff members of the school system. You, as a guidance counselor, are asked to respond to the specific items on this survey. All responses will be kept confidential. The information gathered will be used to help vocational programs work to their best to meet the various needs and interests of students. Please return the completed survey via basket delivery by July 18, 1980.

Thank you,
Timothy R. Dangel
Coordinator of Research

DIRECTIONS: PLEASE GIVE THE REQUESTED INFORMATION BY CHECKING THE APPROPRIATE RESPONSE FOR EACH ITEM OR BY WRITING A COMMENT. (THE NUMBERS IN PARENTHESES ARE CODES TO PERMIT A COMPUTER ANALYSIS OF THIS SURVEY. YOU MAY IGNORE THEM.)

1. To what degree does the Fundamentals of Trade and Industry course help students to choose their desired trade program?

_____(1) To a great degree
_____(2) To an adequate degree
_____(3) Very little } (Briefly explain)_____
_____(4) Not at all }

2. To what degree does enrolling in the Fundamentals of Trade and Industry course help to ensure that students will be accepted into a trade program?

_____(1) To a great degree
_____(2) To an adequate degree
_____(3) Very little } (Briefly explain)_____
_____(4) Not at all }

3. To what degree are ninth grade students with an interest in learning a trade encouraged to enroll in the Fundamentals of Trade and Industry course?

_____(1) To a great degree
_____(2) To an adequate degree
_____(3) Very little } (Briefly explain)_____
_____(4) Not at all }

4. Upon what kinds of information do students primarily enroll in a trade or cooperative work experience program?

_____(1) Interest inventories
_____(2) Aptitude tests
_____(3) Their own interests
_____(4) Career education
_____(5) Other (Briefly explain) _____

5. Who most influences students to enroll in either a trade or a cooperative work experience?

_____(1) Parents/guardians (or foster parents)
_____(2) Teachers
_____(3) Guidance counselors
_____(4) Vocational counselor
_____(5) Friends/classmates
_____(6) Others (Briefly explain)_____

Guidance Counselor's Survey - page 2

6. What is the main reason students choose a specific trade or cooperative work experience?

_____(1) To earn graduation credit
_____(2) To prepare for a job
_____(3) To prepare to enter a junior or community college
_____(4) To prepare to enter a four-year college or university
_____(5) To prepare to enter a trade or business school
_____(6) Personal interest
_____(7) Other (Briefly explain) _____

7. Are students generally accepted into the trade or cooperative work experience of their first choice?

_____(1) Yes
_____(2) No (Briefly explain)_____

8. Would most students who enroll in a trade or work experience program remain in school if these programs were not available?

_____(1) Yes
_____(2) No (Briefly explain)_____

9. What programs do students select if they are not accepted into a trade or cooperative work experience program?

10. Generally, what are the characteristics of students who enroll in a vocational trade or cooperative work experience program?

11. Generally, what are the reasons why students are not accepted into a trade or cooperative work experience program?

12. Briefly describe the process by which students are counseled to decide whether or not to enroll in a vocational trade or work experience program.

13. How can guidance counselors best remain current about the total vocational educational program in order to provide students with the most up-to-date, comprehensive information for program selection?

14. Is there anything else you would like us to know about the Trade or Cooperative Work Experience Programs?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS

Vocational Work Coordinator's Survey

Dear Work Coordinator:

At the direction of the Superintendent of Schools and the Board of Education, I am coordinating an evaluation of vocational education Trade and Cooperative Work Experience Programs. The evaluation process involves surveying or interviewing students who have enrolled in a trade or work experience, employers who hire vocational program graduates, and the staff members of the school system. You, as a vocational work coordinator, are asked to respond to the specific items on this survey. All responses will be kept confidential. The information gathered will be used to help vocational programs work to their best to meet the various needs and interests of students. Please return the completed survey in the attached envelope by July 18, 1980.

Thank you,
Timothy R. Dangel
Coordinator of Research

DIRECTIONS: PLEASE GIVE THE REQUESTED INFORMATION BY CHECKING THE APPROPRIATE RESPONSE FOR EACH ITEM OR BY WRITING A COMMENT. (THE NUMBERS IN PARENTHESES ARE CODES TO PERMIT A COMPUTER ANALYSIS OF THIS SURVEY. YOU MAY IGNORE THEM.)

LISTED BELOW ARE SPECIFIC COOPERATIVE WORK EXPERIENCE PROGRAMS. EACH IS CURRENTLY OFFERED FOR TWO SEMESTERS. PLEASE INDICATE AFTER EACH PROGRAM IF THE AMOUNT OF TIME ALLOTTED IS A (TOO MUCH TIME), B (ABOUT THE RIGHT AMOUNT OF TIME), OR C (TOO LITTLE TIME). IF YOU CHOOSE A OR C, PLEASE INDICATE YOUR ESTIMATE OF A MORE REALISTIC AMOUNT OF TIME.

		Too Much Time	About the Right Amount of Time	Too Little Time	Estimate of Time
		A(1)	B(2)	C(3)	
1.	Business Data Processing	A	B	C	_____
2.	Cooperative Office Education	A	B	C	_____
3.	Cooperative Occupations Program	A	B	C	_____
4.	Distributive Education	A	B	C	_____
5.	Health Occupations Program	A	B	C	_____
6.	Trade and Industry	A	B	C	_____
7.	Vocational Experience Program	A	B	C	_____

8. **Upon what kinds of information do students primarily enroll in Cooperative Work Experience Programs?**

_____(1) Interest inventories
_____(2) Aptitude tests
_____(3) Their own interests
_____(4) Career education
_____(5) Other (Briefly explain) _____

9. **Who most influences students to enroll in a Cooperative Work Experience Program?**

_____(1) Parents/guardians (or foster parents)
_____(2) Teachers
_____(3) Guidance counselors
_____(4) Vocational counselor
_____(5) Friends/classmates
_____(6) Others (Briefly explain) _____

10. **What procedures are used to recommend students for a cooperative work experience?**

11. What is the current schedule for cooperative work experiences for students (e.g., one-half day, five days a week or some variation of this)?

_____

12. Does this schedule best meet the needs of students?

_____(1) Yes
_____(2) No

13. If the answer to Item 12 is No, what schedule would you suggest?

14. Would most students who enroll in a cooperative work experience remain in school if this program was not available?

_____(1) Yes
_____(2) No (Briefly explain) _____

15. In general how closely is cooperative work experience related to students' vocational programs?

_____(1) The same as the training
_____(2) Closely related to training
_____(3) Somewhat related to training
_____(4) Not related to training (Briefly explain) _____

16. What is the main reason students enroll in specific Cooperative Work Experience Programs?

_____(1) To earn graduation credit
_____(2) To prepare one for a job
_____(3) To prepare to enter a junior or community college
_____(4) To prepare to enter a four-year college or university
_____(5) To prepare to enter a trade or business school
_____(6) Personal interest
_____(7) Other (Briefly explain) _____

17. Are students generally accepted for their first choice in a cooperative work experience?

_____(1) Yes
_____(2) No (Briefly explain) _____

18. Is there anything else you would like us to know about the Cooperative Work Experience Program?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.

ANNE ARUNDEL COUNTY PUBLIC SCHOOLS
VOCATIONAL EDUCATION
TRADE AND INDUSTRY AND
COOPERATIVE WORK EXPERIENCE PROGRAMS

Principal/Coordinator/Director
Survey/Interview Form

Position:

____(0) Principal/Assistant Principal
____(1) Coordinator
____(2) Director

IN EACH OF THE CONTENT AREAS CAN ANY OF THE REQUIRED CREDITS TOWARD GRADUATION BE MET BY EXISTING TRADE COURSES OR COURSES PROPOSED FOR VOCATIONAL-TECHNICAL CENTERS. PLEASE CIRCLE THE NUMBER OF CREDITS WHICH COULD BE MET AND SPECIFY THE COURSES (EITHER EXISTING OR PROPOSED).

Program Area	Credits Met					Specific Courses Existing	Specific Courses Proposed
1. English Language Arts	4	3	2	1	0		
2. Social Studies		3	2	1	0		
3. Science			2	1	0		
4. Mathematics			2	1	0		

5. To what degree does the Fundamentals of Trade and Industry course help students to choose their desired trade program?

____(1) To a great degree
____(2) To an adequate degree
____(3) Very little
____(4) Not at all
} (Briefly explain) _____

6. To what degree does enrolling in the Fundamentals of Trade and Industry help to ensure that students will be accepted into a trade program?

____(1) To a great degree
____(2) To an adequate degree
____(3) Very little
____(4) Not at all
} (Briefly explain)_____

7. To what degree are ninth grade students with an interest in learning a trade encouraged to enroll in Fundamentals of Trade and Industry?

____(1) To a great degree
____(2) To an adequate degree
____(3) Very little
____(4) Not at all
} (Briefly explain)_____

8. In your school how much school time do students use out of the school day for transportation to the vocational-technical centers for participation in the Fundamental's course?

____(1) None
____(2) 10 to 15 minutes
____(3) 16 to 30 minutes
____(4) 31 to 45 minutes
____(5) 41 to 60 minutes
____(6) more than one hour

Principal's/Coordinator's/Director's Form - page 2

9. Can the costs and time required for transportation to the vocational-technical center be reduced? How?

10. What would be the impact of any changes in transportation on the comprehensive high school program? On the vocational-technical program?

11. What is the current schedule for cooperative work experience students?

12. Does this schedule best meet the needs of students?

_____(1) Yes
_____(2) No

13. If the answer to Item 12 is No, what schedule would you suggest?

14. What can the educational staff do to remain current about the vocational education programs in order to provide to students the most current and comprehensive information for program selection?

15. Is there anything else you would like us to know about the Trade or Cooperative Work Experience Programs?

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY.